Service Manual

Telephone Equipment

KX-TCM526BX-B

SOUND CHARGER PLUS

Black Version

Cordless Answering System

EXTRA RANGE

(for Asia, Middle Near East and Other areas)

(Portable Handset)   (Base Unit)

■ SPECIFICATIONS

General

Modulation:	FM, 5 kHz Deviation
Frequency Stability:	±2.5 kHz
Dial Type:	Tone (DTMF)/Pulse
Redial:	Last dialed number each time the Redial button is pressed
Pause:	3.5 seconds per pause

Memory Capacity:	10 telephone numbers, up to 16 digits per station

Answering system

Greeting Message and Incoming Message:	Full digital recording Total recording time, 16 minutes

	Base Unit	Portable Handset
Power Source: (Receiver Section)	AC adaptor KX-A11BMX (DC 12 V)	Built-in rechargeable Ni-Cd battery (PQXA36ASVC)
Receiving Frequency:	10 channels within 49.46 to 49.99 MHz	10 channels within 43.72 to 44.20 MHz
Adjacent Channel Rejection:	40 dB	40 dB
Sensitivity: (Transmitter Section)	1dBμV for 20 dB S/N	2 dBμV for 20 dB S/N
Transmitting Frequency:	10 channels within 43.72 to 44.20 MHz	10 channels within 49.46 to 49.99 MHz
Jacks:	DC IN, Telephone line	
Antenna:	Telescopic	Rubber Flexible
Speaker:	2" (6.6 cm) PM dynamic	$1^3/_{16}$" (3 cm) ceramic
Microphone:	Condenser microphone	Condenser microphone
Dimensions (H×W×D):	$2^5/_{16}$"×$6^{11}/_{16}$"×9" (59×170×229 mm)	$11^7/_8$"×$2^5/_{32}$"×$1^{23}/_{32}$" (302×55×44 mm)
Weight:	1.32 lb (600 g)	0.52 lb (234g) with battery

Design and specifications are subject to change without notice.

Panasonic

KX-TCM526BX-B

> ⚠ **WARNING**
>
> This service information is designed for experienced repair technicians only and is not designed for use by the general public.
> It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
> Products powered by electricity should be serviced or repaired only by experienced professional technicians.
> Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

> When you mention the serial number, write down all 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

FOR SERVICE TECHNICIANS
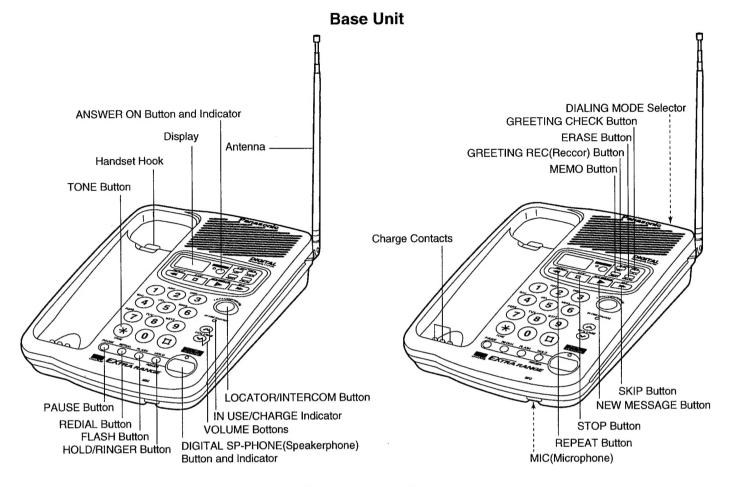
ICs and LSIs are vulnerable to static electricity.
When repairing, the following precautions will help prevent recurring malfunctions.
1. Cover plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on worktable.
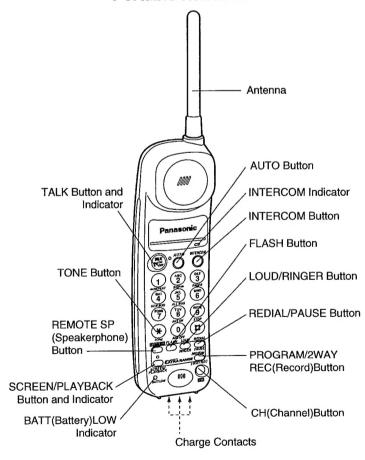4. Do not grasp IC or LSI pins with bare fingers.

TABLE OF CONTENTS

LOCATION OF CONTROLS

Base Unit

ANSWER ON Button and Indicator

Display

Handset Hook

Antenna

TONE Button

PAUSE Button

REDIAL Button

FLASH Button

HOLD/RINGER Button

LOCATOR/INTERCOM Button

IN USE/CHARGE Indicator

VOLUME Bottons

DIGITAL SP-PHONE(Speakerphone) Button and Indicator

DIALING MODE Selector

GREETING CHECK Button

ERASE Button

GREETING REC(Reccor) Button

MEMO Button

Charge Contacts

SKIP Button

NEW MESSAGE Button

STOP Button

REPEAT Button

MIC(Microphone)

Portable Handset

Antenna

AUTO Button

INTERCOM Indicator

INTERCOM Button

FLASH Button

LOUD/RINGER Button

REDIAL/PAUSE Button

PROGRAM/2WAY REC(Record)Button

CH(Channel)Button

TALK Button and Indicator

TONE Button

REMOTE SP (Speakerphone) Button

SCREEN/PLAYBACK Button and Indicator

BATT(Battery)LOW Indicator

Charge Contacts
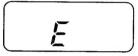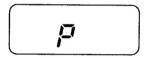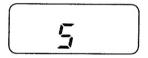
Display of the base unit

The clock needs adjusting.

E

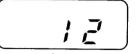Your message was not recorded correctly. Record it again.

P

The unit is in programming mode.

5

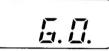The speaker volume level is set to "5".
You can select:
• 9 levels (0-8) while using the answering system.
• 8 levels (1-8) while using the speakerphone.
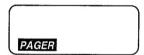
12

12 messages have been recorded.

FULL

Memory is full. Erase some or all of the messages.

G.O.

The recording time is set to "greeting only".

RINGER OFF

The base unit ringer volume is set to OFF.

PAGER

The pager call mode is set to ON.
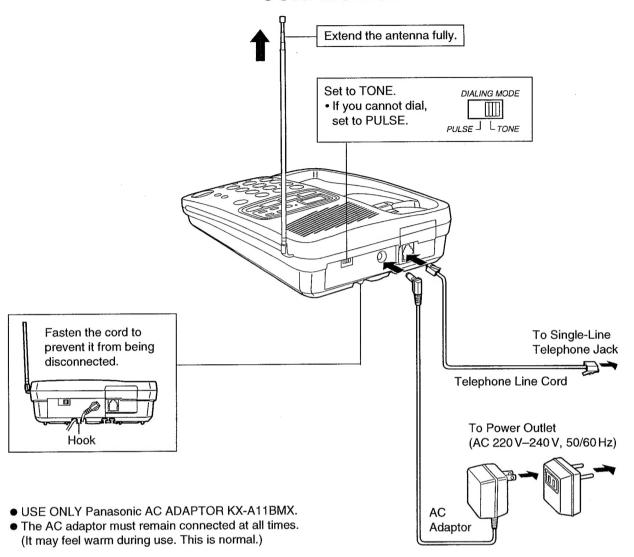
STANDARD BATTERY LIFE

If your Panasonic battery is fully charged;
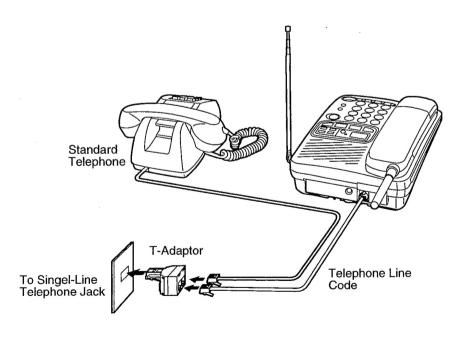
While in use (TALK)	Up to about 6 hours
While not in use (Stand-by)	Up to about 30 days

● Battery life may vary depending on usage conditions and ambient temperature.
● **Clean the handset and the base unit charge contacts with a soft dry cloth once a month. Clean more often if the unit is subject to grease, dust or high humidity.** If not, the battery may not charge properly.
● Once the battery is fully charged, you do not have to place the handset on the base unit until the BATT LOW indicator flashes. This will maximize the battery life.
● The battery cannot be overcharged.

CONNECTION

Extend the antenna fully.

Set to TONE.
• If you cannot dial, set to PULSE.

DIALING MODE

PULSE ⌐ ⌐ TONE

Fasten the cord to prevent it from being disconnected.

Hook

To Single-Line Telephone Jack

Telephone Line Cord

To Power Outlet (AC 220 V–240 V, 50/60 Hz)

AC Adaptor

● USE ONLY Panasonic AC ADAPTOR KX-A11BMX.
● The AC adaptor must remain connected at all times. (It may feel warm during use. This is normal.)

Adding Another Phone

Standard Telephone

T-Adaptor

To Singel-Line Telephone Jack

Telephone Line Code

OPERATIONS

NEW OPERATIONS

Simultaneous Keypad Dialing

You can use the base unit like a standard telephone. After pressing [TALK] to make a call with the handset near the base unit, you can also dial using the base unit keypad.

1 Handset:
Press [TALK].

2 Base unit:
Dial a telephone number while hearing a dial tone with the handset.
●When the other party answers, talk using the handset.

3 Handset:
To hang up, press [TALK] or place the handset on the base unit.

Useful information

This feature is convenient when you need to enter numbers during a call using the handset (for example, to access an answering service, electronic banking service, etc.). You can enter numbers using the base unit keypad.

1. Handset:
Press [TALK].

2. Handset:
Dial a telephone number.
●You may also dial with the base unit keypad.

3. Base Unit:
Enter the required numbers.

4. Handset:
To hang up, press [TALK] or place the handset on the base unit.

Simultaneous Keypad Dialling is available only after pressing [REMOTE SP] or [TALK].

Remote Speakerphone

you can switch a call with the handset to the speakerphone easily.

1 Handset:
During a call with the handset, press [REMOTE SP].
●The call is switched to the base unit.
●The INTERCOM indicator flashes.
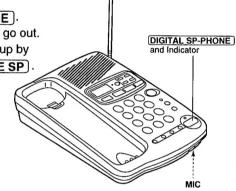●The DIGITAL SP-PHONE indicator lights.

INTERCOM Indicator

[TALK]

[REMOTE SP]

2 Base unit:
Speak into the MIC.

3 Base unit:
To hang up, press [DIGITAL SP-PHONE].
●The indicator lights go out.
●you can also hang up by pressing [REMOTE SP].

[DIGITAL SP-PHONE] and Indicator

MIC

When you use [REDIAL/PAUSE] or [REDIAL], dial a stored number, etc, press [REMOTE SP] after dialing is completed.

You can turn on the base unit speakerphone by using the handset as a remote control.

Making calls with the remote speakerphone

1. Handset:
Press [REMOTE SP].
2. Handset:
Dial a telephone number.
●You may also dial with the base unit keypad.
3. Base Unit:
Speak into the MIC.
4. Handset:
To hang up, press [REMOTE SP].
●You may also hang up by pressing [DIGITAL SP-PHONE].

When you redial

A number dialed with the handset keypad is saved in the handset.
A number dialed with the base unit keypad is saved in the base unit.

To switch to handset (while using the remote speakerphone)

Press [TALK].
●You can continue the conversation using the handset.
●To hang up, press [TALK] or place the handset on base unit.

When you use [REDIAL/PAUSE] or [REDIAL], dial a stored number, etc, press [TALK] after dialing is completed.

Answering calls with the remote speakerphone

1. Handset:
Press [REMOTE SP].
2. Base unit:
Speak into the MIC.
3. Handset:
To hang up, press [REMOTE SP].
●You may also hang up by pressing [DIGITAL SP-PHONE].

Storing the Pager Number

1 Press PROGRAM/2WAY REC .
● The TALK indicator flashes.

2 Press SCREEN/PLAYBACK .
● The indicator lights.
● "P" is displayed on the base unit.

3 Press # .

4 a) Enter your pager number.
(If necessary, press
REDIAL/PAUSE twice.)
b) Enter the call back number to
be displayed on the pager.
(Press # if required by your
pager company.)
● If you misdial, press
PROGRAM/2WAY REC
then restart from step1.
● You can enter up to 48 digits total.

Labels: TALK and Indicator — AUTO — REDIAL/PAUSE — PROGRAM/2WAY REC — SCREEN/PLAYBACK and Indicator

5 When finished, press
PROGRAM/2WAY REC .
● The indicator lights go out.

Your pager company may require a delay after the pager number is dialed. Contact your pager company regarding the required pause time.
Pressing REDIAL/PAUSE once creates a 3.5 second delay and counts as one digit.

To confirm the stored pager number

Press TALK ➡ AUTO ➡ # .
● The unit dials the stored number.
● If the pager does not beep, restart from step1 to store the number again.

To erase the stored pager number

Press PROGRAM/2WAY REC ➡ SCREEN/PLAYBACK ➡ # ➡ PROGRAM/2WAY REC .

NORMAL OPERATIONS

Making Calls with the Handset

1 Press TALK .
● The TALK indicator lights.

2 Dial a telephone number.
● If you misdial, press FLASH firmly then dial again.

3 To hang up, press TALK or place the handset on the base unit
● The TALK indicator light goes out.
● If an alarm tone sounds in step 1, move towards the base unit or place the handset on the base unit. Then try again.

Labels: TALK and Indicator — FLASH — LOUD/RINGER — REDIAL/PAUSE — CH

To redial the last number
Press TALK ➡ REDIAL/PAUSE .

To select the receiver volume LOW, MEDIUM (preset) or HIGH

Press LOUD/RINGER while talking.
● Each time you press the button, the volume level will change.
(MEDIUM ➡ HIGH ➡ LOW ➡ MIDIUM ➡ ...)

If noise interfaces with the conversation

Press CH to select a clear channel or move closer to the base unit.

Answering Calls with the Handset
If the handset is off the base unit, press TALK .
● You can also answer a call by pressing any dialing button 0 to 9, *, or # (-**Any Key Talk**).

Labels: TALK — LOUD/RINGER

OR
If on the base unit, just lift it up.

Adjusting the handset ringer volume
Be sure the TALK indicator light is off.
● **To select HIGH (preset) or LOW**, press LOUD/RINGER lightly. (Each time you press the button, the ringer volume will change.)
● **To turn the ringer OFF**, press LOUD/RINGER unitl 2 beeps sound.
● **To turn the ringer ON**, press LOUD/RINGER lightly. The ringer sounds at the HIGH level.

Lighted keypad
The dialing buttons will light while dialing and flash when a call is received. The lights will go out about 10 seconds after dialing or answering a call.

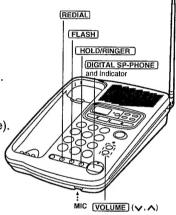## Making Calls with the Base Unit
(Digital Duplex Speakerphone)

1 Press DIGITAL SP-PHONE.
●The indicator lights.

2 Dial a telephone number.
●If you misdial, press
FLASH firmly then dial again.

3 When the other party answers,
speak into the **MIC**(microphone).

4 To hang up, press
DIGITAL SP-PHONE.
●The indicator light goes out.

●While using the speakerphone, if the handset is on the base unit, you may switch to the handset by lifting it up.

To adjust the speaker volume (8 levels)
To increase, press ∧ . To decrease, press ∨ .

To redial the last number
Press DIGITAL SP-PHONE ➔ REDIAL.

To put a call on hold
Press HOLD/RINGER .
●The DIGITAL SP-PHONE indicator flashes.
●If you put a call on hold for 6 minites, a warning
tone will sound.
The call will be disconnected
after a total of 10 minutes.

To release the hold
For the base unit, press DIGITAL SP-PHONE.

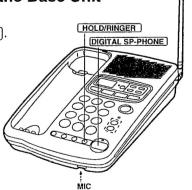For the handset, press TALK or lift the handset off
the base unit.

●You may also press REMOTE SP on the handset to release
the hold at the base unit.
●If another phone is connected on the same line,
you can also release the hold by lifting its handset.

Answering Calls with the Base Unit

1 Press DIGITAL SP-PHONE.

2 Speak into the **MIC**.

3 To hang up, press
DIGITAL SP-PHONE.

Adjusting the base unit ringer volume
Be sure the DIGITAL SP-PHONE indicator light is off.
●**To select HIGH (preset) or LOW**, press
HOLD/RINGER lightly.
(Each time you press the button, the ringer volume will
change.)
●**To turn the ringer OFF**, press HOLD/RINGER
until 2 beeps sound.
" **RINGER OFF** " is displayed.
●**To turn the ringer ON**, press HOLD/RINGER
lightly. The ringer sounds at the HIGH level.

Greeting Message
you can prepare a personal greeting message. If
you do not, one of two pre-recorded greetings will
be played when a call is received.

All message (greeting, incoming, memo, etc.) are
stored in digital memory. The **total recording time
is about 16 minutes**.We recommend you record **a
brief greeting message** in order to leave more time
in memory.

To record a greeting message

1 Press GREETING REC to
start the recording mode.
●"Press RECORD again
to record greeting. " is head.
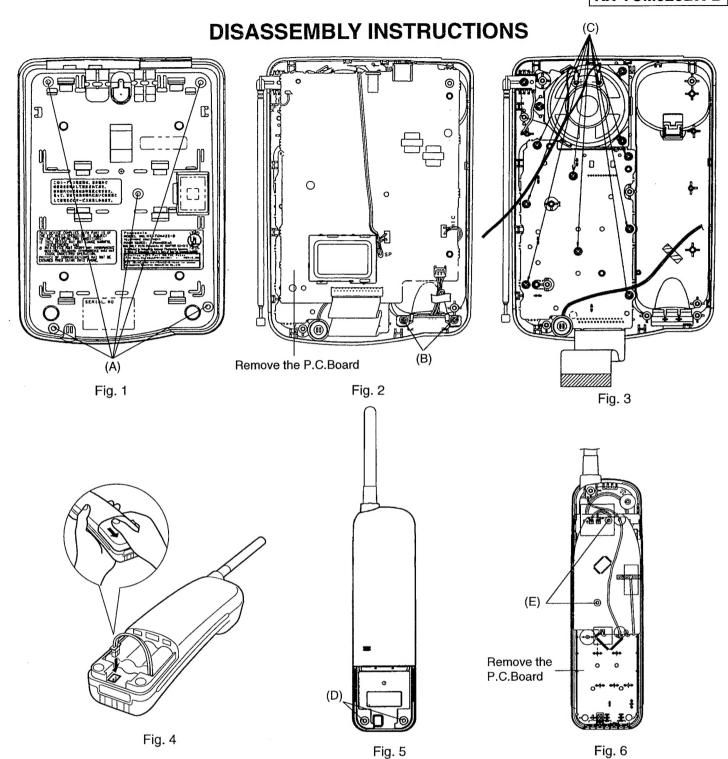
2 Within 5 seconds, press
GREETING REC again
to record your greeting.
●A long beep sounds.

3 After the long beep,
speak clearly about
8 inches (20 cm) away
from the **MIC** (microphone).
●The display shows
the elapsed recording time.

4 When finished, press STOP .
●**To check** the recorded
greeting, press GREETING CHECK
●To change the message, repeat from step 1.

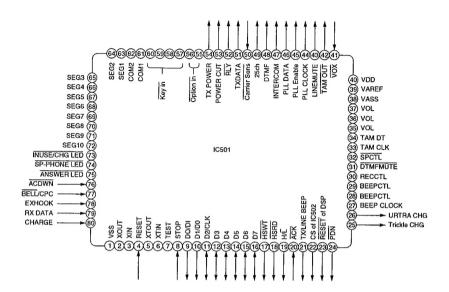### To erase the recorded greeting message

Press GREETING CHECK ➔ press ERASE while
the message is being played.
●The unit will answer a call with a pre-recorded
greeting.

DISASSEMBLY INSTRUCTIONS

(C)

(A)

Fig. 1

Remove the P.C.Board

(B)

Fig. 2

Fig. 3

Fig. 4

(D)

Fig. 5

(E)

Remove the
P.C.Board

Fig. 6

Ref. No.	Procedure	Shown in Fig.—	To remove—.	Remove—.
1	1	1	Lower Cabinet	Screws (3×14)........................ (A)×5
2	1, 2	2	Main Printed Circuit Board and Battery Terminal Board	Screws (3×8).......................... (B)×2
3	1, 2, 3	3	Operation Printed Circuit Board	Screws (3×8).......................... (C)×8
4	4, 5	4	Rear Cabinet	Remove the battery compartment cover
5		5		Screws (2.6×14)..................... (D)×2
6	4~6	6	Printed Circuit Board	Screw (2.6×10)..................... (E)×2
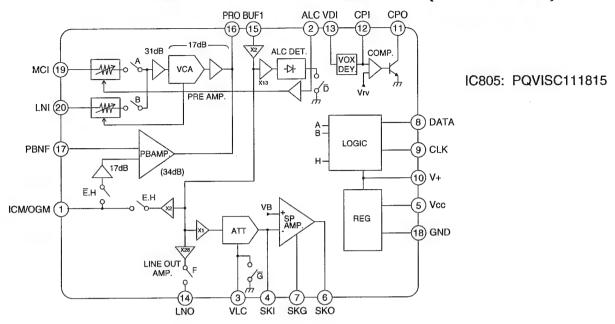
CPU DATA (BASE UNIT)

IC501: PQVI53MF5005
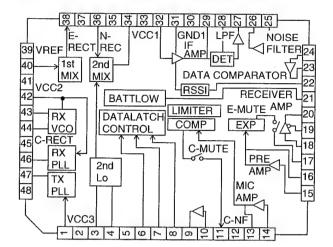
Pin No.	Description	I/O	High	High-Z	Low	Pin No.	Description	I/O	High	High-Z	Low
1	VSS	-	-	-	GND	41	VOX	I	-	-	Active
2	XOUT	O	-	-	-	42	TAM OUT	O	MUTE	-	Unmute
3	XIN	I	-	-	-	43	LINEMUTE	O	MUTE	-	Unmute
4	RESET	I	Normal	-	RESET	44	PLL CLOCK	O	(H/L)	-	Normal
5	XTOUT	O	-	-	-	45	PLL Enable	O	Latch	-	Normal
6	XTIN	I	-	-	-	46	PLL DATA	O	(H/L)	-	Normal
7	TEST	I	-	-	GND	47	INTERCOM	O	INTERCOM	-	Normal
8	STOP	I	Normal	-	STOP	48	DTMF	O	-	-	-
9	DO/DI	I/O	DATA	Normal	DATA	49	25ch	O	NEW CH	-	OLD CH
10	D1/D0	I/O	DATA	Normal	DATA	50	Carrier Sens	I	Low	-	High
11	D2/CLK	I/O	DATA	Normal	DATA	51	TXDATA	O	1	-	0
12	D3	I/O	DATA	Normal	DATA	52	RLY	O	OFF	-	ON
13	D4	I/O	DATA	Normal	DATA	53	POWER CUT	I	Battery	-	Batt Low
14	D5	I/O	DATA	Normal	DATA	54	TX POWER	O	POWER ON	-	POWER OFF
15	D6	I/O	DATA	Normal	DATA	55	Option in	I	DISABLE	-	ENABLE
16	D7	I/O	DATA	Normal	DATA	56	Option in	I	DISABLE	-	ENABLE
17	HSWT	O	-	-	Write to DSP	57	Key in	I	DISABLE	-	ENABLE
18	HSRD	O	-	-	Read from DSP	58	Key in	I	DISABLE	-	ENABLE
19	H/L	O	High byte	-	Low byte	59	Key in	I	DISABLE	-	ENABLE
20	ACK	I	DSP Active	-	DATA RECEPTION OK	60	Key in	I	DISABLE	-	ENABLE
21	TX/LINE BEEP	O	Active	-	Normal	61	COM1	O	COM1 mode	-	COM1 mode
22	CS of IC502	O	ON	-	OFF	62	COM2	O	COM2 mode	-	COM2 mode
23	RESET of DSP	O	RESET	-	NORMAL	63	SEG1	O	-	-	-
24	PDN	O	POWER ON	-	POWER DWN	64	SEG2	O	-	-	-
25	Trickle CHG	O	Normal	-	Trickle	65	SEG3	O	-	-	-
26	ULTRA CHG	O	ULTRA	-	Normal	66	SEG4	O	-	-	-
27	BEEP CLOCK	O	Active	-	Normal	67	SEG5	O	-	-	-
28	BEEPCTL	O	-	High	Low	68	SEG6	O	-	-	-
29	BEEPCTL	O	-	High	Low	69	SEG7	O	-	-	-
30	RECCTL	O	REC MODE	-	Normal	70	SEG8	O	-	-	-
31	DTMFMUTE	O	Unmute	-	MUTE	71	SEG9	O	-	-	-
32	SPCTL	O	Normal	-	SP-Phone	72	SEG10	O	-	-	-
33	TAM CLK	O	-	-	-	73	INUSE/CHG LED	O	-	LED OFF	LED ON
34	TAM DT	O	-	-	-	74	SP-PHONE LED	O	-	LED OFF	LED ON
35	VOL	O	-	High	Low	75	ANSWER LED	O	-	LED OFF	LED ON
36	VOL	O	-	High	Low	76	ACDWN	I	AC	-	AC DOWN
37	VOL	O	-	High	Low	77	BELL/CPC	I	CPC	-	BELL
38	VASS	-	-	-	GND	78	EXHOOK	I	EXHOOK	-	-
39	VAREF	-	VDD	-	-	79	RX DATA	I	1	-	0
40	VDD	-	VDD	-	-	80	CHARGE	I	Charge	-	No Charge

EXPLANATION OF IC TERMINALS (BASE UNIT)

IC805: PQVISC111815

● Pin Description

Pin No.	Name	Description
1	ICM/OGM	I/O for ICM head. I/O impedance is approximately 20 kohm that keeps high impedance sufficient for head load.
2	ALC	For connection to CR for ALC detection smoothing. The time constant of the CR decides the recovery time. The attack time depends on the values of C and internal resistance (approx. 8.5 kohm).
3	VLC	Volume control input. The DC voltage gained by dividing V+ the resistor adjusts the speaker output.
4	SKI	Reverse input of the speaker amplifier. The gain and frequency characteristics are set by external CR. Non-reverse input is biased by internal power source (approx. 1/2 Vcc).
5	Vcc	Power source of IC except LOGIC part.
6	SKO	Output of speaker amplifier. Sets frequency characteristics by connecting to Pin 4 in parallel. Speaker's impedance is normally 8 ohms.
7	SKG	GND speaker amplifier output part.
8	DATA	Input of control data for mute mode. For serial synchronous input with clock signal.
9	CLK	Clock input for data input sychronization. Controls shift register by data bit at fall, and latches by reading data at rise.
10	V+	5.4 V stable output to supply bias with microphone.
11	CPO	output of comparator. Connected to open-collector of NPN transistor.
12	CPI	Input of VOX detector comparator. Compares internal reference voltage with gained voltage, and has a bit hysteresis characteristics.
13	VDI	Input of VOX detector.
14	LNO	Output of buffer amplifier for line output. Current amplifier.
15	BUFI	Inputs of Recording amplifier, line output amplifier, speaker amplifier, and ALC detector. These are input after voltage/radio conversion by CR between this pin and pin 16.
16	PRO	Output of MIC/LINE amplifier and playback amplifier.
17	PBNF	Reverse input of playback amplifier for controlling frequency characteristics. The CR network between this pin and Pins 16 and 18 set frequency and gain.
18	GND	GND for all ICs except speaker amplifier.
19	MCI	Input of microphone amplifier. The input resistance is normally 33 kohms.
20	LNI	Input of line amplifier. The same configuration as MCI.

KX-TCM526BX-B

Part No.
IC201: PQVITB31224H (Base Unit)
IC1: PQVITB31224R (Portable Handset)

Pin No.	Name	Description	
1	TX-IN	Input terminal of TX-VCO	
2	VCC3	Power supply terminal	
3	LO-1	Local oscillator input output terminal	
4	LO-2	Colpitts oscillating circuit consists of internal emitter follower circuit and external crystal. Additionally external injection through pin 3 is available.	
5	SIG OUT	Detection signal output terminal, which is an open drain.	
6	CLK	Clock input terminal	Input the serial data to control this IC.
7	DATA	Serial data input terminal	
8	STB	Strobe signal input terminal	
9	FIL-OUT	Filter amplifier output terminal	
10	FIL-IN	Filter amplifier input terminal	
11	COMP-OUT	Compressor output	
12	C-NF	SUM amplifier T-shape feed-back circuit consists of external compressor.	
13	MIC-OUT	Mic amplifier output, which is connected to SUM amplifier input directly.	
14	MIC-IN	Mic amplifier input terminal	
15	PRE-IN	Preamplifier inverting input terminal	
16	PRE-OUT	Preamplifier output terminal, which is connected to expander directly.	
17	EXP-OUT	Expander SUM amplifier output terminal, where the signal from gain cell is amplified as inverting amplifier.	
18	RECE-IN	Receiver amplifier inverting input terminal	
19	RO1	Receiving output terminal for dynamic receiver	
20	RO2	Outputs from RO1 and RO2 (BTL type) when ceramic receiver is using.	
21	BAT-ALM	Battery alarm terminal goes high when power supply voltage VCC becomes VBAT-L or less. Data bit controls the detection voltage. This terminal is an open collector output.	
22	RSSI	DC voltage is output according to the input signal level of IF amplifier. The dynamic range is approximately 70dB.	
23	DATA-OUT	Wave arrangement output terminal. This terminal is an open collector output.	
24	D-COMP-IN	Data comparator input terminal to which demodulated signal of data is input.	

Pin No.	Name	Description
25	N FIL-IN	Noise filter input output terminal. BPF consists of external condenser and resistor. This terminal is connected to the rectifier circuit through inside coupling condenser.
26	N FIL-OUT	
27	AF-OUT	Demodulation output signal terminal. Carrier leak is decreased by built-in LPF. Output impedance is approximately 360 .
28	QUAD	Phase input terminal of FM demodulator
29	IF-OUT	IF output terminal
30	GND1	GND terminal
31	DEC	2nd IF input terminal and decoupling terminal for bias. Input impedance of Pin 32 is approximately 1.5k .
32	IF-IN	
33	Vcc1	Power supply terminal
34	2nd MIX-OUT	Mixer output terminal. Output impedance is approximately 1.5k .
35	N-REC	The noise filter output is filtered through external capacitor after amplified about 20dB
36	2nd MIX-IN	1st IF input terminal. Input impedance is approximately 4.7k (at 10.695MHz).
37	E-RECT	Connects to the capacitor for rectification in full-wave rectifier circuit of expander.
38	1st MIX-OUT	Mixer output terminal which is connected to the external filter. Output impedance is approximately 330 (standard).
39	V REF	Reference voltage of compander which is passed through inside buffer.
40	1st MIX-IN	Mixer input terminal. The mixer is applied the double balanced mixer method.
41	VCC2	Regulator terminal, which outputs 2.0V.
42	VCO-CONT	RX-VCO voltage control terminal
43	VCO-1	RX-VCO resonant terminal
44	VCO-2	
45	C-RECT	Rectifier terminal of compressor. The circuit configuration is the same with E-RECT terminal.
46	RX-OUT	Charge pump output terminal. Constant current output type is adopted and output current can be changed according to the input data.
47	TX-OUT	
48	GND2	GND terminal

KX-TCM526BX-B
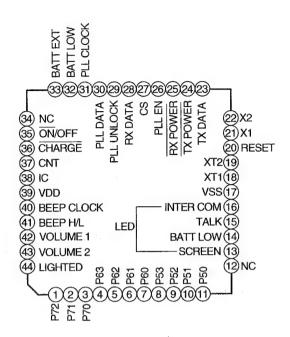
```
     ┌───┐ ┌───┐
 (1) RD +     VAG (20)
 (2) RD -     TI + (19)
 (3) PI       TI - (18)
 (4) P0 -     TG (17)
 (5) PO +    MU/A (16)
 (6) VDD     VSS (15)
 (7) FSR     FST (14)
 (8) CR      DT (13)
 (9) BCLKR  BCLK (12)
(10) PDI    MCLK (11)
```

IC802,IC803 : PQVIMCL548DW

● **Pin Description**

Pin No.	Pin Name	Function
1	RO+	Recept the outputted analog.
2	RO-	Recept the outputted analog.
3	PI	Input the power amp.
4	PO-	Output the power amp.
5	PO+	Output the power amp.
6	Vdd	Positive power supply pin.
7	FSR	Frame synchronization, reception
8	CR	Recept the data.
9	BCLKR	Recept the bit clock.
10	PDI	Input the power down.
11	MCLK	Master Clock pin.
12	BCLKT	Transmit the bit clock.
13	DT	Transmit the data.
14	FST	Frame synchronization, transmission
15	Vss	Negative power supply pin.
16	Mu/A	Select the Mu/A.
17	TG	Transmit gain
18	TI-	Transmit the inputted analog.
19	TI+	Transmit the inputted analog.
20	VAG	Output the analog ground.

CPU DATA (PORTABLE HANDSET)

IC202:PQVI0008GE47

Pin No.	Description	I/O	High	High-Z	Low	Pin No.	Description	I/O	High	High-Z	Low
1	Option Strobe 1	O	Normal		Active	25	RX Power	O	Off		On
2	Option Strobe 0	O	Normal		Active	26	PLL En	O	Latch		Normal
3	Key Strobe 4	O	Normal		Active	27	Squelch	I	Electric Field Low		Electric Field High
4	Key Strobe 3	O		Normal	Active	28	RX Data	I	(Data)		Normal
5	Key Strobe 2	O		Normal	Active	29	PLL Unlock	I	Unlock		Lock
6	Key Strobe 1	O		Normal	Active	30	PLL Data	O	(Data)		Normal
7	Key Strobe 0	O		Normal	Active	31	PLL Clock	O	(Clock)		Normal
8	Key In 3	I	Off		On	32	Batt Low	I	High		Low
9	Key In 2	I	Off		On	33	BATT EXT	I	High		Low
10	Key In 1	I	Off		On	34	Not Used				
11	Key In 0	I	Off		On	35	On/Off	I	Off		On
12	Not Used					36	Charge (Battery Terminal)	I	Normal		Charge
13	LED (SCREEN)	O		Off	On	37	(Control)	I	Base Unit		Charger
14	LED (BATT LOW)	O		Off	On	38	Internally Conn.				
15	LED (TALK)	O		Off	On	39	VDD				
16	LED (INTERCOM)	O		Off	On	40	Beep Clock	O	Normal		(Clock)
17	GND					41	Beep Control	O	Low		High
18	Sub Clock	I				42	RX Volume Selector	O	1		0
19	(32.768kHz)	I				43	RX Volume Selector	O	1		0
20	Reset	I	Normal		Reset	44	LIGHTED DIAL	O	On		Off
21	Main Clock	I									
22	(3.995MHz)	I									
23	TX Data	O	(Data)		Noraml						
24	TX Power	O	Off		On						

CONFIRMATION (TAM)

How to set the test mode:

1. Set S10 to ON (Power supply is turned ON).
2. After pressing S11 for 500 msec, separate S11 (The unit becomes TAM test mode).

When replacing these parts, confirm as shown below table.

Replace Parts	Confirmation items	Test Mode	Procedure
IC801~IC803	(A) Greeting Message Characteristics	TAM Test Mode	1. Set S6, S12, S13, S14 to ON. 2. Record the GREETING with a 1 kHz, -45 dBm sine wave MIC input signal through the capacitor 50V, 1μF. 3. Confirm the speaker output level VR MAX (8) is +2 ±4 dBm. 4. Confirm the Line output level (600Ω load) is +10 ±4 dBm.
IC801~IC803	(B) ICM Characteristics	TAM Test Mode	1. Set S6, S9, S14 to ON. 2. Record the ICM with a 1 kHz, -30 dBm line input signal. 3. Confirm the speaker output level VR MAX (8) is +2 ±4 dBm. 4. Confirm the Line output level (600Ω load) is +10 ±4 dBm.

The connection of confirmation equipments are as shown in pages 29 and 30.

CPU OPTIONS

Base Unit

Diode No.	Description	Diode Open	Diode Connect					
D514	Tone/Pulse Selector	Tone	Pulse					
D515	Reading EEPROM	Not Read	Read					
D518	9 bit Data Mute	9 bit Data Mute	Not Mute					
D519	VOX Detect	Detect	Not Detect					
D511	Dual Key	Disable	Enable					
D512	Quick Charge	Disable	Enable					
D509	Flash Time	0 ⌐ 700 msec	0 ⌐ 400 msec		1 ⌐ 250 msec		1 ⌐ 80 msec	
D510	Flash Time	0 ⌐	1 ⌐		0 ⌐		1 ⌐	
D507	Ring Detect	1Ring/600 msec	1 Ring/250 msec					
D508	Speakerphone	Disable	Enable					
D505	BEAT Measure	CH25	CH23 (Skip 16, 19ch)					
D506	% Break	61%	67%					
D503	43-49 MHz	0 ⌐ U.S.A.CH25	0 ⌐ 30-40 MHz		1 ⌐ 43-49 MHz		1 ⌐ 43-49 MHz	
D504	30-40 MHz	0 ⌐	1 ⌐		0 ⌐ CH10		1 ⌐ CH6	
D501	TAM Test Mode	Normal	Test					

Portable Handset

Diode No.	Description	Diode Open	Diode Close
D209	Test Mode	Normal	Test Mode
D208	Model with TAM	———	Used
D207	43 MHz / 49 MHz	Not Measured	Measured
D206	Test Mode CH	CH10	Imagination CH
D213	Tone/Pulse	Program	BX: Prohibition
D212	30 MHz / 40 MHz	Not Measured	Measured
D211	Battery Low LED	30 min. Light	10 min. Light
D210	PRE DATA	9 Bit	100Hz

FREQUENCY TABLE (MHz)

	BASE UNIT		PORTABLE HANDSET	
	Receive Frequency	Transmit Frequency	Transmit Frequency	Receive Frequency
1	49.460	43.720	49.460	43.720
2	49.845	43.740	49.845	43.740
3	49.860	43.820	49.860	43.820
4	49.500	43.840	49.500	43.840
5	49.875	43.920	49.875	43.920
6	49.830	43.960	49.830	43.960
7	49.890	44.120	49.890	44.120
8	49.930	44.160	49.930	44.160
9	49.990	44.180	49.990	44.180
10	49.970	44.200	49.970	44.200
A	49.950	43.700	49.640	44.540
B	49.700	44.100		44.520
C	49.810		49.620	44.560

ADJUSTMENTS (BASE UNIT)

If your unit have below symptoms, adjust each item using remedy column from the table.

Symptom	Remedy
The base unit dose not respond to a call from portable handset.	Make adjustments in item (A)
The base unit dose not transmit or the transmit frequency is off.	Make adjustments in item (B)
The transmit frequency is off.	Make confirmations in item (C)
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.	Make adjustments in item (D)
The reception sensitivity of base unit is low with noise.	Make adjustments in item (E)
The transmit level is large or small.	Make adjustments in item (F), (G)
The reception level is large or small.	Make adjustments in item (H)
The unit does not link.	Make confirmations in item (I)

Unit condition:

Remove the antenna from P.C Board of the base unit.

How to set the test mode:

1. In pressing S1 and "UP" switch, set S10 to ON (Power supply is turned ON).
2. Separate S1 and "UP" switch. The unit becomes test mode (1).
3. The state of the unit changes as following when "NEW MESSAGE" switch is pressed.

	Test Mode	RX Freq.	TX Freq.	Mode
Power supply is turned ON	Test Mode (1)	CH10	CH10	Talk
Press "NEW MESSAGE" switch 1 time	Test Mode (2)	CHA	CHA	Talk
Press "NEW MESSAGE" switch 1 time	Test Mode (3)	CHB	CHB	Talk
Press "NEW MESSAGE" switch 1 time	Test Mode (4)	CHC	CH1	Talk
Press "NEW MESSAGE" switch 1 time	Test Mode (5)	CH1	CHB	Int'com
Press "NEW MESSAGE" switch 1 time	Test Mode (6)	CH1	CHB	Locator

When replacing these parts, adjust as shown in below table.

Replace Parts	Adjustment items	Test Mode	Adjustment point	Procedure
IC201, T203	(A) RX VCO Adjustment	Test Mode (1)	T203	1. Set S3 to ON. 2. Adjust T203 so that the reading of the Digital Voltmeter is 3.5V±0.1 V.
D301, T301	(B) TX VCO Adjustment	Test Mode (1)	T301	1. Set S2 to ON. 2. Adjust T301 so that the reading of the Digital Voltmeter is 1.5 V±0.1 V.
DUP301, T202, X201	(C) TX Frequency Cofirmation	Test Mode (3)	——	1. Set S8 to ON. 2. Confirm so that the reading of the frequency counter is 44.100 MHz±700 Hz.

When replacing these parts, adjust as shown in table below.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
VR302, Q302 **T351**	(D) TX Power Adjustment	Test Mode (2)	T351 VR302	1. Set S4 to ON. 2. Adjust T351 so that the reading of the RF VTVM is peak level. 3. Adjust VR302 so that the reading of the RF VTVM is 1000mv±50mV.
T201	(E) RX Sensitivity Adjustment	Test Mode (2)	T201	1. Set S5 to ON. 2. Apply a 60dB μ Vemf output from S.S.G. (modulation frequency 1kHz, dev. 0kHz). 3. Adjust T201 so that the reading of the RF VTVM is maximum output (10~50 mV).
T202	(F) Line Output Maximum Adjustment	Test Mode (3)	T202	1. Set S5 and S6 to ON. 2. Apply a 40dB μ Vemf output from S.S.G. (modulation frequency 1kHz. dev. 0 kHz), and adjust T202 so that reading of the DC voltmeter is 0.9 V±0.05 V.
VR201	(G) Line Output Level Adjustment	Test Mode (3)	VR201	1. Set S5 and S6 to ON. 2. Apply a 40dB μ Vemf output from S.S.G (modulation frequency 1kHz. dev. 3kHz). 3. Adjust VR201 so that the reading of the AF VTVM is -5.0dBm±0.5dBm (600Ω load).
VR301	(H) Line Input Modulation Adjustment	Test Mode (3)	VR301	1. Set S5, S8 and S9 to ON. 2. Input via loop simulator 1.0kHz, -20.0 dBm/600Ω (measured at T-R) signal. 3. Apply a 40 dB μ Vemf output from S.S.G. (modulation frequency 1kHz, dev. 0kHz). 4. Adjust VR301 so that the reading of the FM Deviation Meter is 4.0 kHz±0.1kHz.
IC201	(I) Carrier Sensitivity Confirmation	Test Mode (4)	——	1. Set S5, S8 to ON. 2. Apply a 35dB μ Vemf output from S.S.G. (modulation frequency 1kHz, dev. 3kHz). Confirm so that the oscilloscope becomes Low. 3. Apply a 15dB μ Vemf output from S.S.G. (modulation frequency 1kHz, dev. 3kHz). Confirm so that the oscilloscope becomes High.

The connection of adjustment equipments are as shown on page 25.

■ **FOR SCHEMATIC DIAGRAM (BASE UNIT) [page 24]**

1. DC voltage measurements are taken with electronic voltmeter from negative voltage line.

This schematic diagram may be modified at any time with development of new technology.

--- Important Safety Notice ---

The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.
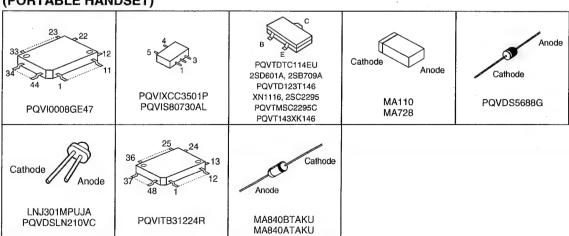
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

(BASE UNIT)

AN6183SAE1 PQVI93LC46XI	PQVITB31224H	PQVI53MF5005	PQVID6471A	PQVIMCL548DW
PQVIKM29N4TC	PQVISC111815	PQVINJM4558M	PQVIBU4053BF	2SA1625, 2SC2120
2SC1740S	2SK543	PQVTMSC2295C 2SC2412K, 2SD1819A 2SB709A, 2SD601A PQVTFB1A4M, 2SB1218A PQVTDTA114YU	2SD2137	2SD1994A 2SD1991A
PQVDS1ZB40F1	MA110	PQVDKV1832C3	MA4100, MA4062 MA4047	1SS119
MA700A	PQVDMTZ3R6 MA4220	LNJ301MPUJA PQVDSLN210VC		

(PORTABLE HANDSET)

PQVI0008GE47	PQVIXCC3501P PQVIS80730AL	PQVTDTC114EU 2SD601A, 2SB709A PQVTD123T146 XN1116, 2SC2295 PQVTMSC2295C PQVT143XK146	MA110 MA728	PQVDS5688G
LNJ301MPUJA PQVDSLN210VC	PQVITB31224R	MA840BTAKU MA840ATAKU		

HOW TO REPLACE FLAT PACKAGE IC

■ **PREPARATION**

· SOLDER – – – – – – – Sparkle Solder 115A-1, 115B-1
OR
Almit Solder KR-19, KR-19RMA

· Soldering iron – – – – Recommended power consumption will be between 30 W to 40 W.
Temperature of Copper Rod 662 ± 50°F (350 ±10℃)
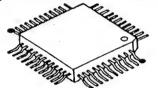
(An expert may handle 60~80 W iron, but beginner might damage foil by overheating.)

· Flux – – – – – – – – – HI115   Specific gravity 0.863

(Original flux will be replaced daily.)

■ **PROCEDURE**
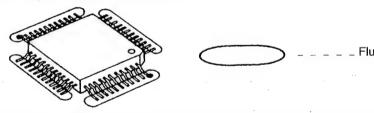
1. Temporary fix FLAT PACKAGE IC by soldering on two marked 2 pins.
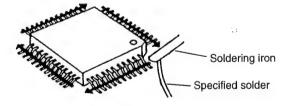
● – – – – – –Temporary soldering point.

*Most important matter is accurate setting of IC to the corresponding soldering foil.

2. Apply flux for all pins of FLAT PACKAGE IC.

– – – – – Flux
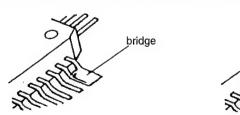
3. Solder employing specified solder to direction of arrow, as sliding the soldering iron.

— Soldering iron

— Specified solder
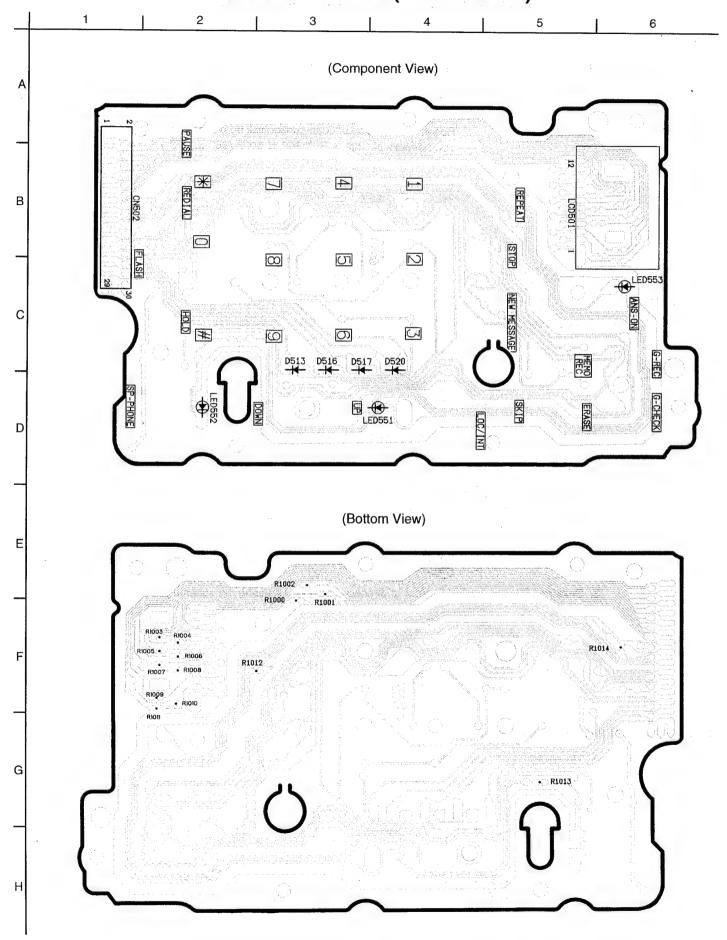
■ **MODIFICATION PROCEDURE OF BRIDGE**
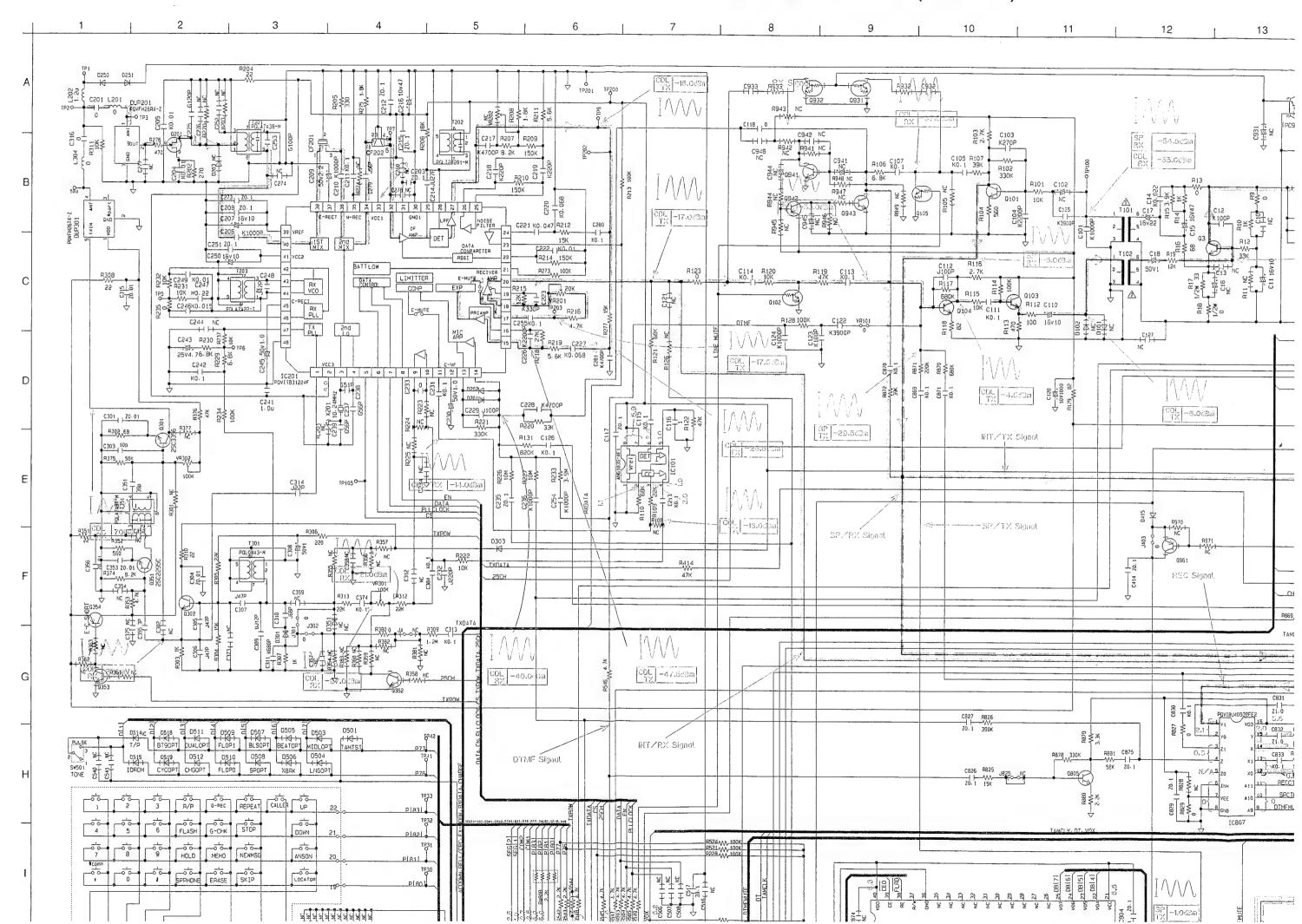
1. Re-solder slightly on bridged portion.

2. Remove remained solder along pins employing soldering iron as shown in below figure.

bridge
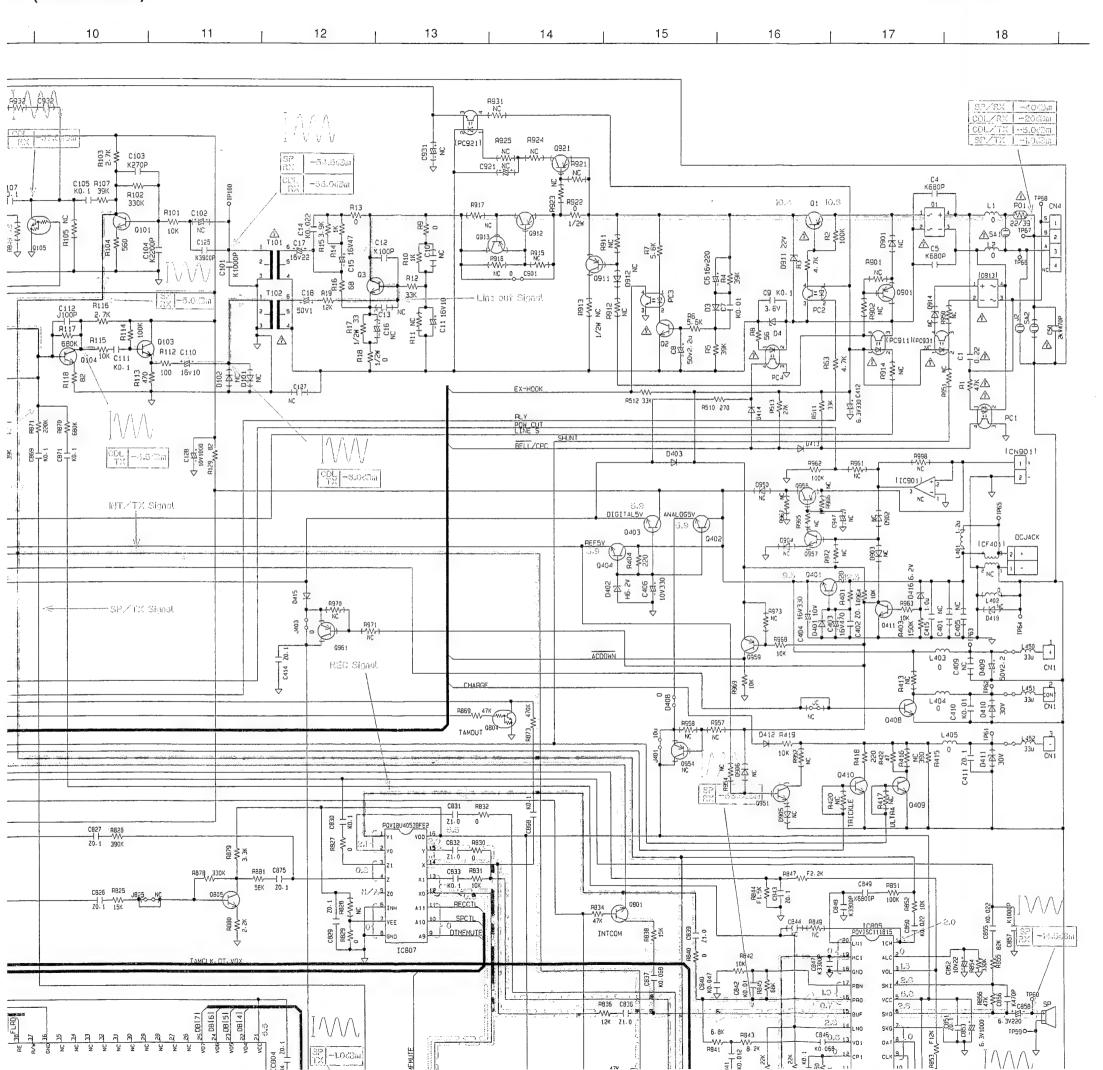
CIRCUIT BOARD (OPERATION)

(Component View)

(Bottom View)

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (BASE UNIT)

(Flow Solder Side View)

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (BASE UNIT)

(Component View)

IC501 Voltage	No Mark: Standby, ( ): Talk		
Pin No.	Value (V)	Pin No.	Value (V)
1	0	45	0
2	2.1	46	5.0
3	1.8	47~49	0
4	5.0	50	5.2
5	2.6	51	3.0
6	2.3	52	5.0
7	0	53~55	0
8	4.9	56	0.5
9~20	0	57, 58	0
21	5.0	59, 60	5.0
22~24	0	61	2.5
25	5.0	62	2.7
26~31	0	63	1
32	5.0	64~72	2.5
33~39	0	73	0
40	5.0	74, 75	4.4
41	5.2	76~78	3.0
42~44	5.0	80	4.2

IC801 Voltage	No Mark: Standby, ( ): Talk		
Pin No.	Value (V)	Pin No.	Value (V)
1~15	0	31	0
16~18	2.5	32	5.0
19	5.0	33	1
20~24	0	34	0
25	0	35~37	5.0
26	1.6	38~52	0
27	0	53	5.0
28	2.5	54~72	0
29	0	73	5.0
30	1	74~80	0

2" (5 cm) PM DYNAMIC SPEAKER

—26—

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (PORTABLE HANDSET)

(Component View)

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (PORTABLE HANDSET)

(Flow Solder Side View)

CN201 CN1

Main P.C.Board — RF P.C.Board

S8

Carrier Sens
Oscilloscope

SP Output S10
AF Voltmeter
130Ω
SP

1 3/16" (3 cm)
CERAMIC SPEAKER

GND 455KHZ

S5 S7 GND RX S2 TX VCO

Digital Multimeter   RF Voltmeter   Digital Multimeter

Detector Out   2nd IF

S4 50Ω
RF Voltmeter TX Power

S3
Frequency Counter TX Frequency

S9
Deviation Meter
Mic Mod
Max Mod
Data Mod

S6 RX
S.S.G.

SHIELD PLATE

RUBBER FLEXIBLLE ANTENNA

Battely Low
Oscilloscope
S1
TP5

Mic Modulation
AF Oscillator
10μF
S11

DC3.9V
DC Power Supply
220μF
S12

IC1 SP ANT TP1
Q101 Q103
C25 C20

IC202 Voltage   No Mark: Standby, ( ): Talk

Pin No.	Value (V)	Pin No.	Value (V)	Pin No.	Value (V)	Pin No.	Value (V)	Pin No.	Value (V)	Pin No.	Value (V)
1,2	3.6	15	4.7	20	3.6	28	1.8	33	3.9	39~41	3.7
3~7	0	16	2.4	21	1.5	29	3.7	34,35	—	42~44	0
8~11	3.6	17	0	22	1.2	30	0	36	3.7		
12	0	18	1.1	23~26	0	31	—	37	0		
13,14	2.7	19	1.8	27	3.7	32	3.9	38	3.3		

IC202 RINGER BATT CN101

DA Test Mode

—28—

ADJUSTMENTS (PORTABLE HANDSET)

If your unit have below symptoms, adjust each item using remedy column from the table.

Symptom	Remedy
The movement of Battery Low Indicator is wrong.	Make confirmation in item (A)
The base unit does not respond to a call from portable handset.	Make adjustment in item (B)
The base unit does not transmit or the transmit frequency is off.	Make adjustment in item (C)
The transmit frequency is off.	Make confirmation in item (D)
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.	Make confirmation in item (E)
The reception sensitivity of base unit is low with noise.	Make adjustment in item (F)
Does not link between base unit and portable handset.	Make confirmation in item(G), (H)
The reception level is large or small.	Make adjustment in item (I)
The transmit level is large or small.	Make adjustment in item (J)

Unit condition:
1. Remove the antenna lead wire from P.C Board of portable handset.
2. **Connect the Main P.C.Board (CN201) and RF P.C.Board (CN1) by extension cord (PQZZ12K11Z).**
3. Power Supply: DC 3.9V
4. Speaker Load: 130 Ω

How to set the test Mode

1. After connecting diode DA, set S12 to ON (Power supply is turned ON).
2. The unit becomes test mode (1).
3. The state of the unit changes as following when "AUTO" switch is pressed.

	Test Mode	RX Freq.	TX Freq.	Mode
Power supply is turned ON	Test Mode (1)	CH10	CH10	Talk
Press "AUTO" switch 1 time	Test Mode (2)	CHA	CHA	Talk
Press "AUTO" switch 1 time	Test Mode (3)	CHB	CH1	Talk
Press "AUTO" switch 1 time	Test Mode (4)	CH1	CH1	Talk

When replacing these parts, adjust as shown in table below.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
IC202	(A) Battery Low Confirmation	Test Mode (1)	—	1. Set S1 to ON. 2. Set the power supply voltage to DC 3.62 V, and confirm so that the reading of oscilloscope is High. 3. Set the power supply voltage to DC 3.52 V, and confirm so that the reading of oscilloscope is Low.
IC1, X1, L105	(B) TX VCO Voltage Adjustment	Test Mode (1)	L105	1. Set S2 to TX VCO side. 2. Adjust L105 so that the reading of digital voltmeter is 3.0 V ± 0.1 V (After adjusting, set S2 to OFF).

When replacing these parts, adjust as shown in table below.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
IC1, X1, L5	(C) RX VCO Voltage Adjustment	Test Mode (1)	L5	1. Set S2 to RX VCO side. 2. Adjust L5 so that the reading of digital voltmeter is 3.1 V ± 0.1 V (After adjusting, set S2 to OFF).
X1, IC1	(D) TX frequency Confirmation	Test Mode (2)	—	1. Set S3 to ON. 2. Confirm that the reading of frequency counter is 49.640 MHz ± 700 Hz .
DUP101 L103	(E) TX Output Adjustment	Test Mode (1)	L103	1. Set S4 to ON. 2. Adjust L103 so that its reading of RF VTVM (50 Ω load) is over 900mv at maximum output.
L4, DUP1	(F) RX Adjustment (Detector Output) (2nd IF Output)	Test Mode (2)	L4	1. Set S5 and S6 to ON. 2. Apply a 45 dB μ Vemf output from S.S.G. (modulation frequency 1 kHz, dev. 0 kHz) 3. Adjust L4 so that the reading of DC voltmeter 0.9 ± 0.05 V 4. Set S7 to ON. 5. Apply a 60 dB μ Vemf output from S.S.G. (modulation frequency 1kHz, dev. 0 kHz) 6. Comfirm 2nd IF output so that its reading of RF VTVM is maximum output (20~50 mV).
	(G) Carrier Sensitivity Confirmation	Test Mode (2)	—	1. Set S6 and S8 to ON. 2. Apply 30 dB μ Vemf output from S.S.G.(modulation frequency 1kHz, dev. 3 kHz) signal on oscilloscope becomes low. 3. Apply 15 dB μ Vemf output from S.S.G.(modulation frequency 1kHz, dev. 3 kHz) signal on oscilloscope becomes high.
	(H) Data Moudulation Confirmation	Test Mode (2)	—	1. Set S9 to ON. 2. Keep pressing the flash button. 3. Confirm for a 4.5~6.5 kHz FM Deviation Meter reading.
VR1	(I) Speaker Output Level Adjustment	Test Mode (2)	VR1	1. Set S6 and S10 to ON. 2. Apply a 45 dB μ Vemf output from S.S.G.(modulation frequency 1kHz, dev. 3kHz). 3. Adjust VR1 so that the reading of AF VTVM is -18dBm ± 0.5 dB.
VR101	(J) MIC Modulation Factor Adjustment	Test Mode (2)	VR101	1. Set S9 and S11 to ON. 2. Apply a MIC signal (1kHz, -40 dBm at 600 Ω load). 3. Adjust VR 101 so that the reading of FM Deviation Meter is 2.8kHz ± 0.1kHz.

The connections of adjustment equipments are as shown in page 28.

■ **For SCHEMATIC DIAGRAM (PORTABLE HANDSET) [Page 29]**

1. SW201: Talk Switch
2. SW202: Auto Switch
3. SW203: Intercom Switch
4. SW204: ChannelSwitch
5. SW205: Program/2Way Rec Switch
6. SW208: Screen/Playback Switch
7. SW209: Loud/Ringer Switch
8. SW210: Flash Switch
9. SW211: Redial/Pause Switch
10. SW212: Remote Speakerphone Switch
11. SW213~224: Dialing Switch
12. DC voltage measurements are taken with electronic voltmeter from negative voltage line. (Talk Posittion)

This schematic diagram may be modified at any time with the development of new technology.

RF SPECIFICATION

BASE UNIT
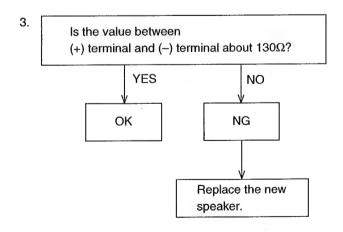
Item	Value	Refer to —.	Remarks
TX Frequency	44.100 MHz±700 Hz	Page 18 (C)	
TX Power	More than 900mV	Page 19 (D)	
Line Modulation factor	3.8 kHz~4.2 kHz	———	Input signal from Tel line: -20 dBm/600Ω, f=1.0 kHz at CHB Talk
Line Modulation Distortion	Less than 7%	———	Input signal from Tel line: -20 dBm/600Ω, f=1.0 kHz at CHB Talk
Line Modulation factor (Max.)	4.5 kHz~7.5 kHz	———	Input signal from Tel line: 0 dBm/600Ω, f=1.0 kHz atCHB Talk
Data Modulation factor	4.5 kHz~7.5 kHz	———	Press Locator switch at CHB Standby

PORTABLE HANDSET

Item	Value	Refer to —.	Remarks
Practical Sensitivity	Less than 9 dBµV	———	at CHA Talk
Carrier Sensitivity	Less than 30 dBµV	———	High→Low at CHB Talk
TX Frequency	49.640 MHz±700 Hz	Page 30 (D)	
TX Output	More than 900mV	Page 30 (E)	
Data Modulation factor	4.5 kHz/dev~6.5 kHz/dev	Page 30 (H)	
MIC Modulation factor	2.7 kHz/dev~2.9 kHz/dev	———	Input signal from MIC: -40 dBm/600Ω, f=1.0 kHz at CHA Talk

HOW TO CHECK THE PORTABLE HANDSET SPEAKER

1. Prepare the digitial voltmeter, and set the selector knob to ohm meter.
2. Put the probes at the speaker terminals as shown in Fig.7.

3.
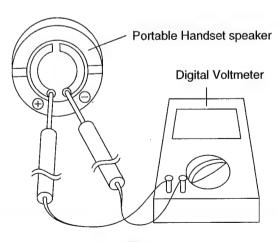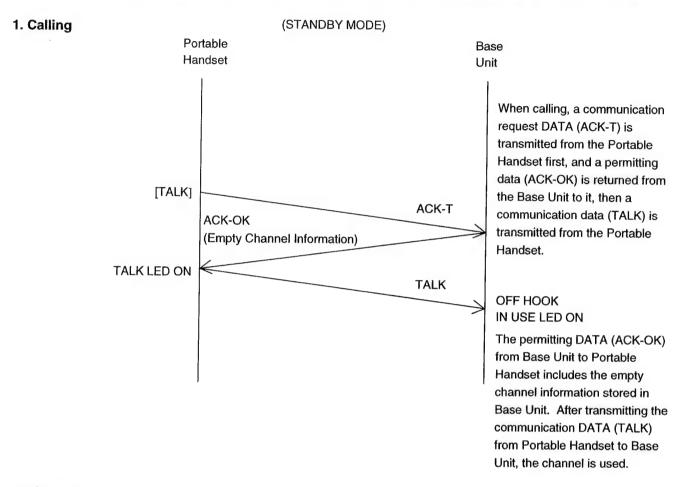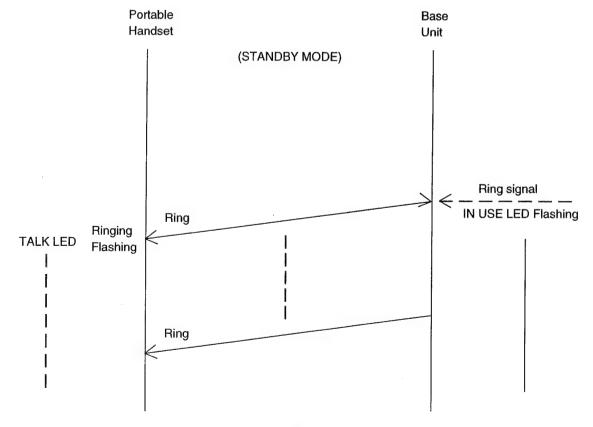
Fig. 7

EXPLANATION OF CPU DATA COMMUNICATION

1. Calling

(STANDBY MODE)

Portable
Handset

Base
Unit

[TALK]

ACK-T

ACK-OK
(Empty Channel Information)

TALK LED ON

TALK

When calling, a communication request DATA (ACK-T) is transmitted from the Portable Handset first, and a permitting data (ACK-OK) is returned from the Base Unit to it, then a communication data (TALK) is transmitted from the Portable Handset.

OFF HOOK
IN USE LED ON

The permitting DATA (ACK-OK) from Base Unit to Portable Handset includes the empty channel information stored in Base Unit. After transmitting the communication DATA (TALK) from Portable Handset to Base Unit, the channel is used.

2. Ringing

Portable
Handset

Base
Unit

(STANDBY MODE)

Ring signal

IN USE LED Flashing

Ring

TALK LED

Ringing
Flashing

Ring

CH CHANGE MODE:

ex): (CH6 → CH8)

Portable Handset   Base Unit

TX   RX   RX   TX
Frequency   Frequency   Frequency   Frequency

CH

① CH-ACK

Portable
Handset
TX frequency=CH6

6   6   6   6

③   ②   8

ACK-OK (8, a)
Base Unit
TX frequency=CH6

④   6   6

⑤ CH-COMMAND (8)

Portable
Handset
TX frequency=CH6

8

8   8   8

8   Conversation(CH8) ⑥
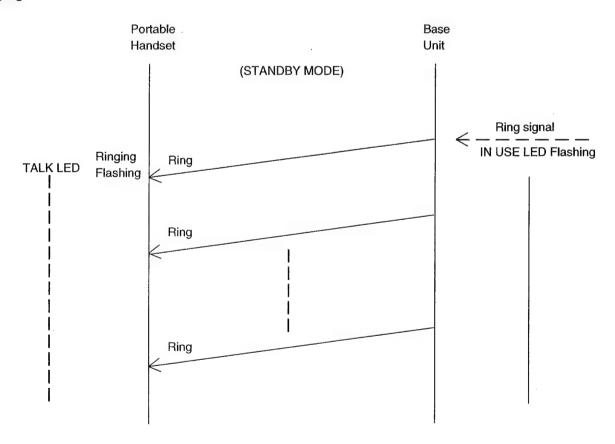
① When the user pushes the CH button, the portable handset sends a CH-ACK request to the base unit. (on the portable handset's conversation frequency)

② The base unit checks the base unit's RX frequency of the vacant (b) channel selected at random.

③ The base unit sends a ACK-OK.
This ACK-OK includes the number of the 2 vacant channels.
One vacant (a) channel and the vacant (b) channel selected in step 2.

④ The portable handset checks the handset's RX frequency of the vacant (b) channel in step 2.

⑤ The portable handset sends a CH-COMMAND.
This CH-COMMAND includes the number of the vacant (b) channel.
After sending the CH-ACK, portable handset changes to a vacant (b) channel.

⑥ The base unit changes to the vacant (b) channel.
The a conversation can be accessed.

KX-TCM526BX-B

2. To terminate Communication

When the TALK button on Portable Handset is pressed during communication, a LINK terminating DATA (STANDBY) is sent to terminate communication. (On the conversation's frequency)

[TALK]
TALK LED OFF

STANDBY

OFF HOOK
IN USE LED OFF

CONDITION

3. Ringing

Portable
Handset

Base
Unit

(STANDBY MODE)

Ring signal
IN USE LED Flashing

TALK LED

Ringing
Flashing

Ring

Ring
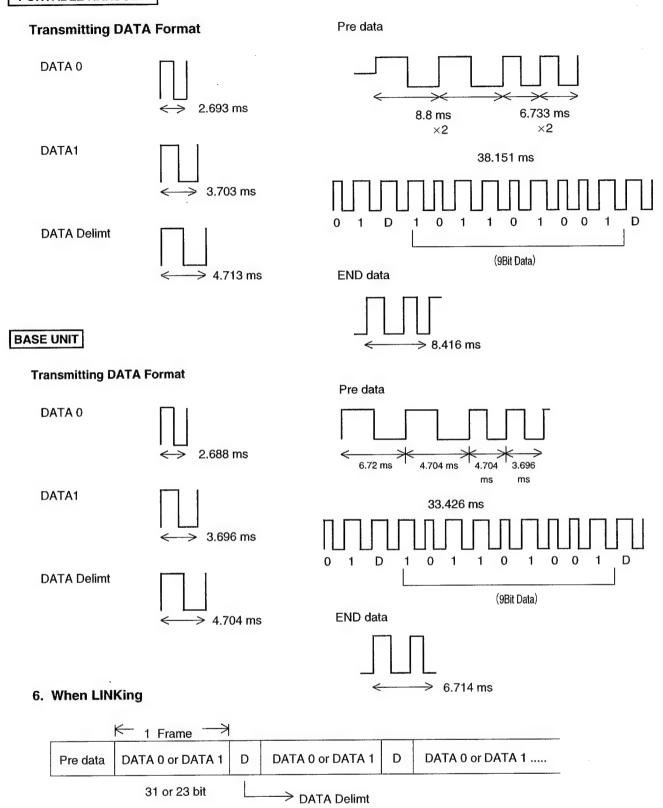
Ring

After detecting the Ring signal from circuit, Base Unit sends a ring signal DATA (Ring) on the base's (a) TX frequency, then the Portable Handset starts ringing.

PORTABLE HANDSET

Transmitting DATA Format

DATA 0

2.693 ms

DATA1

3.703 ms

DATA Delimt

4.713 ms

Pre data

8.8 ms ×2   6.733 ms ×2

38.151 ms

0 1 D 1 0 1 1 0 1 0 0 1 D

(9Bit Data)

END data

8.416 ms

BASE UNIT

Transmitting DATA Format

DATA 0

2.688 ms

DATA1

3.696 ms

DATA Delimt

4.704 ms

Pre data

6.72 ms   4.704 ms   4.704 ms   3.696 ms

33.426 ms

0 1 D 1 0 1 1 0 1 0 0 1 D

(9Bit Data)

END data

6.714 ms

6. When LINKing

Pre data	DATA 0 or DATA 1	D	DATA 0 or DATA 1	D	DATA 0 or DATA 1 .....

1 Frame

31 or 23 bit   DATA Delimt

When LINKing from the Portable Handset (when becoming STBY to TALK), DATA is transmitted in above format. The combined
portion of DATA 0 and DATA 1 is transmitted in LINK requesting DATA format first.Then,when LINK OK(ACK-OK) DATA is returned from the Base Unit, it is sent as LINK from DATA after changing the combination of DATA 0 and DATA 1. And the DATA
Delimt is between each Frame as a stop.
The contents of LINK requesting DATA and LINK from DATA are different depending on each operation.
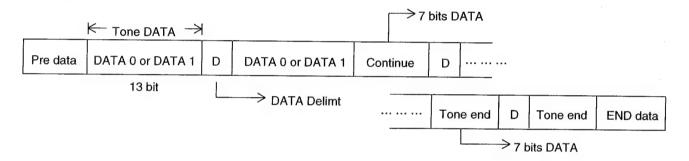
7. Pulse Dial

Pre data	DATA 0 or DATA 1	D	DATA 0 or DATA 1	END data

← Pulse DATA →

13 bit

DATA Delimt

When executing Pulse Dial,the Pulse Dial DATA is transmitted from the Portable Handset to the Base Unit in above format.
The combination of DATA 0 and DATA 1 are changed by each Dial No. And the DATA Delimt is between each Frame as a stop.
The number of Frame is 2.

8. Tone Dial

7 bits DATA

← Tone DATA →

Pre data	DATA 0 or DATA 1	D	DATA 0 or DATA 1	Continue	D	... ...

13 bit

DATA Delimt

... ...	Tone end	D	Tone end	END data

7 bits DATA
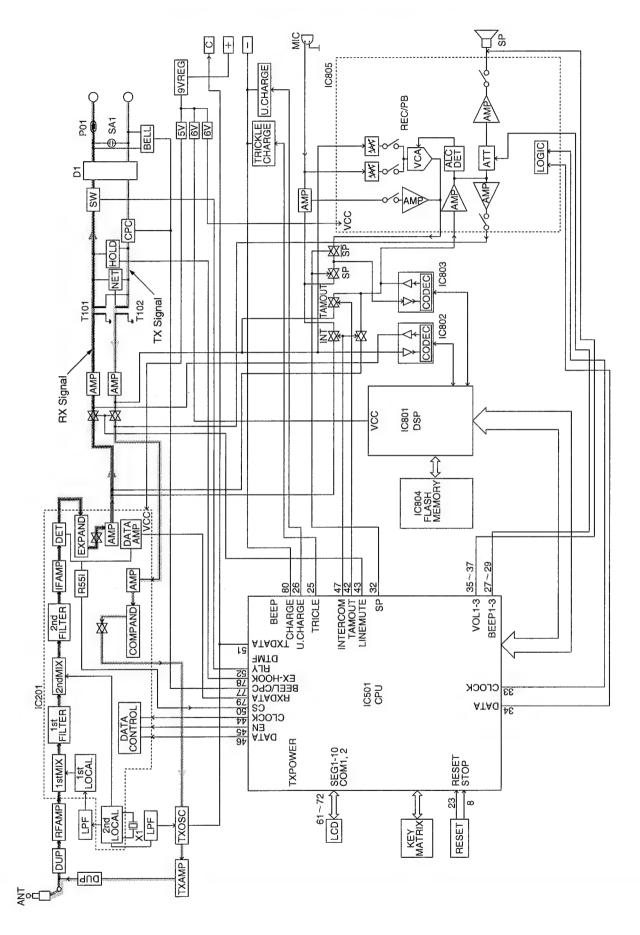
When executing Tone Dial, Tone Dial DATA is transmitted from the Portable Handset to the Base Unit in above format.
The DATA is changed by Dial No. as same as Pulse Dial. When Tone Dialing, DATA (Continue DATA) that the key is pressed
continuously is sent to the Base Unit during the key is pressed. When depressing the key, the TONE Dial exterminating
DATA (Tone end DATA) is send, and the END data is sent finally.

NOTE

65,000 kinds of the security code are available for the
model KX-TCM526BX-B. Each time the portable unit is
set on the cradle of the base unit (for charging), the CPU
automatically changes the security code.

BLOCK DIAGRAM (BASE UNIT)
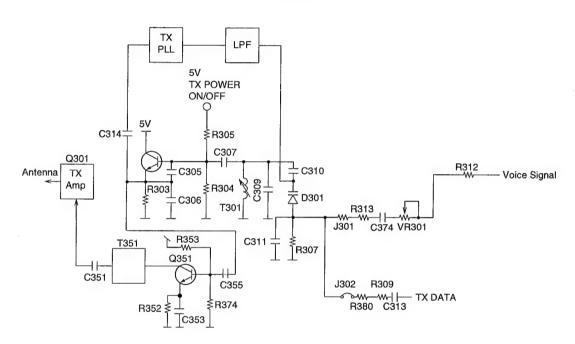
NEW CIRCUIT OPERATION (BASE UNIT)

◼ TRANSMITTER CIRCUIT

The voice signal or data signal sent to the portable handset is applied in the anode of the variable capacitor diode(VARICAP)D301,as shown on figure.

VR301 is used for changing the voice signal level,thus changing the modulation level.

Circuit Diagram

TX PLL

LPF

5V
TX POWER
ON/OFF

C314

5V

R305

Q301

Antenna   TX
Amp

C307

C305

C310

R312
Voice Signal

R303

R304

C309

C306

D301

T301

R313

J301   C374 VR301

C311

R307

R353

T351

Q351

C355

C351

J302   R309

TX DATA

R380   C313

R352

R374

C353
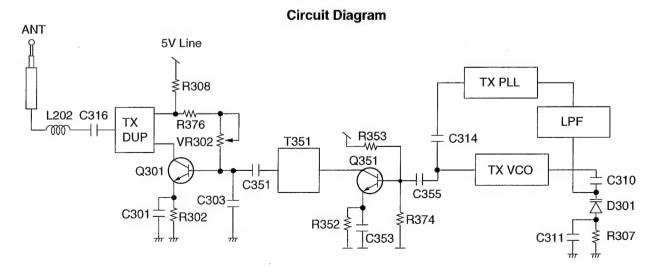
◼ TRANSMITTER OUTPUT AMP CIRCUIT

The singal which is oscillated at TXVCO is amplified by Q302,which is biased by the TX duplexor and whose gain is adjusted by moving T351, VR302.

The signal passes through the duplexor and it is radiated from the antenna.

Circuit Diagram

ANT

5V Line

R308

L202 C316   TX
DUP

R376

TX PLL

VR302

LPF

Q301

T351

R353

C314

C351

Q351

TX VCO

C303

C355

C310

C301   R302

D301

R352

R374

C311   R307

C353

—38—

■ RECEIVER RF IF CIRCUIT
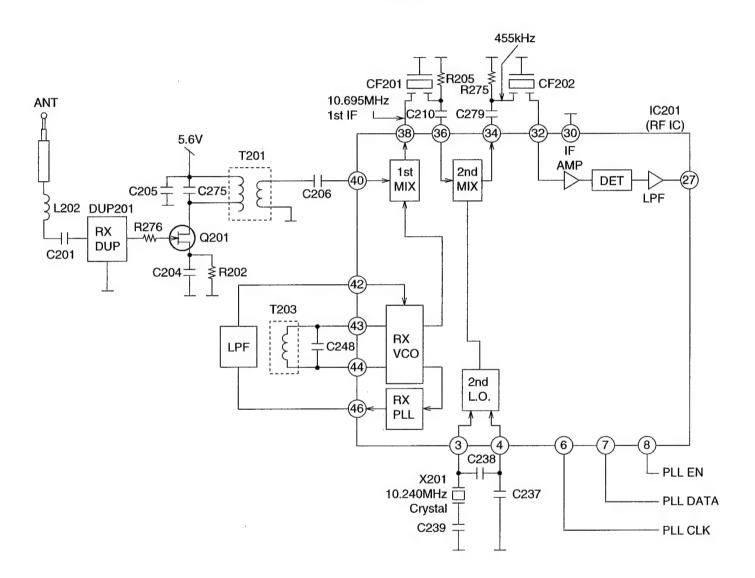
Circuit Operation:

The signal of 49 MHz band (49.46~49.99MHz) which is input from ANT is filtered at DUP201, passes through the filter AMP of 49 MHz band at T201 and Q201, and is input to Pin 4 of IC201.

RX VCO which oscillates at T203 and Pins 42, 46 of IC201 is input to program control at inside of IC201, 1st local frequency is controlled to assigned channel by serial data which is output, from Pins 12, 13 and 28 of IC501 (CPU), makes loop with Phase Detector Out and RX VCO, and locks 1st local frequency.
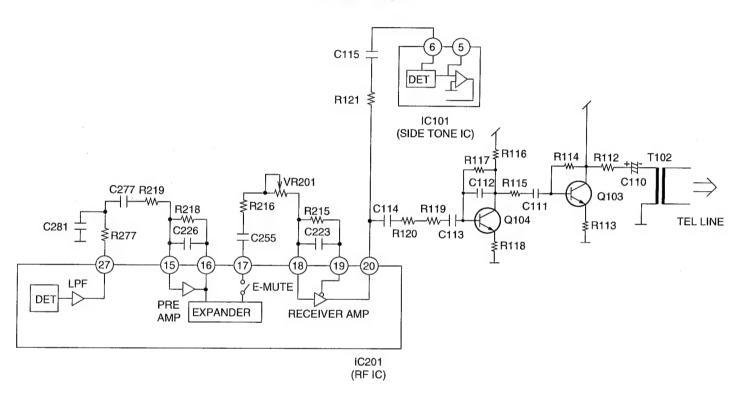
The input signal of Pin 4 of IC201 and 1st local frequency output from RX VCO are mixed at inside of IC201, then it passes through CF201, and 1st IF frequency of 10.695 MHz is generated. Farther, the 10.240 MHz and 10.695 MHz which are oscillated at X201 and Pins 3, 4 of IC201 are mixed at inside of IC201 and filtered at CF202, and 2nd IF 455 Hz is output.

Circuit Diagram

KX-TCM526BX-B

■ RECEIVER SIGNAL CIRCUIT

Circuit Operation:

1. The detected signal passes through R277→C277→(R219) and it is input to the Pre
   Amplifier inside of IC201;it passes through the expander and goes out from pin 17 of IC201.
2. The signal passes through C255→R216→VR201→,and it is input to the Receiver Amplifier of
   IC201,on pin 18.
3. The signal is output from the amplifier on pin 20 of IC201 and it goes thru Q103 and Q104,to the telephone line.
4. The signal is also input to the IC101 (sidetone IC) in pin 6,in order to define the attenuation level of this IC.

Circuit Diagram
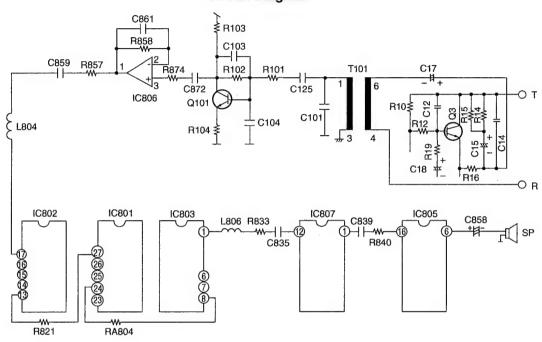
■ SP-PHONE RX CIRCUIT

Circuit Operation:

Telephone Line → C17 → T101 → C125 → R101 → Q101 → C872 → C874 → Pin 3 of IC806 → Pin 1 of IC806
→ R857 → C859 → L804 → Pin 17 of IC802 → Pin 13 of IC802 → R821 → Pin 27 of IC801 → Pin 24 of IC801 → RA804 →
Pin 8 of IC803 → Pin 1 of IC803 → L806 → R833 → C835 → Pin 12 of IC807 → Pin 1 of IC807 → C839 → R840 → Pin 15 of IC805 →
Pin 6 of IC805 → C858 → Speaker
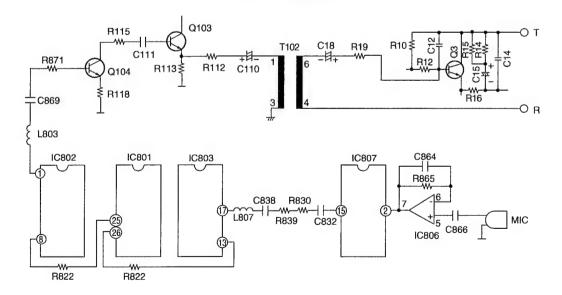
Circuit Diagram

■ SP-PHONE TX CIRCUIT

Circuit Operation:

MIC → C866 → Pin 5 of IC805 → Pin 7 of IC805 → Pin 2 of IC807 → Pin 15 of IC807 → L832 → R830 → R839 → C838 → L807 → Pin
17 of IC803 → Pin 13 of IC803 → Pin 26 of IC801 → Pin 25 of IC801 → Pin 8 of IC802 → Pin 1 of IC802 → L803 → C869 → R871 →
Base of Q104 → Collector of Q104 → R115 → C111 → Base of Q103 → Emitter of Q103 → R112 → C110 → T102 → C18 → R19 →
Q3 → Telephone Line

Circuit Diagram

—41—

NORMAL CIRCUIT OPERATION (BASE UNIT)

■ TELEPHONE LINE INTERFACE

Circuit Operation:
● ANSWER
In the idle mode, Q1 is open to cut the DC loop current and decrease the ring load. When ring voltage appears at the Tip (T) and Ring (R) leads (When the telephone rings), the AC ring voltage is transferred as follows:

T→PO1→C1→R1→PC1→IC501 Pin 77

When the CPU detects a ring signal, Q110 turns on, thus providing an off-hook condition (active DC current flow through the circuit) and the following signal flow is for the voice signal.

T→PO1→D1→Q1→T101 Pin 6→T101 Pin 4→D4→D1→R

● ON HOOK
Q1 is open, Q1 is connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an on-hook condition.
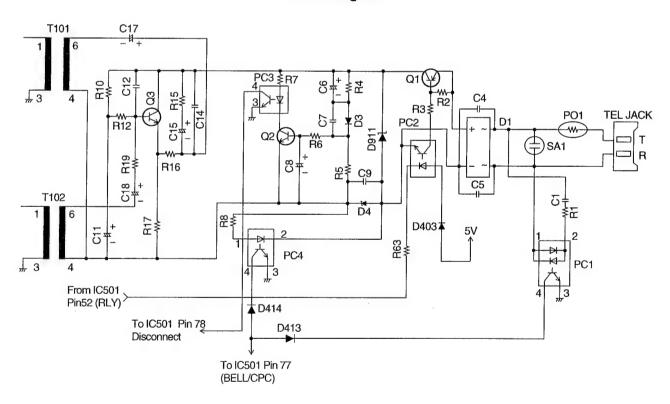
● SPECIFICATIONS
In the on-hook state (idle), the current flows between the telephone line and the unit is as follows:

T→C1→R1→PC1→R

The DC component is blocked by C1: thereby providing an on-hook condition.

The AC interface impedance is over 47 kΩ; thus, satisfying the telephone company requirements.

Circuit Diagram

■ INTERCOM MODE

1) When the base unit PAGE/INT button is pressed, a call monitor signal of 1.95 kHz (intercom sound) is output from Pin 37 of IC501.

2) At the same time, Pin 54 of IC501 goes "High", and the transmission state is reached. Then the modulated data signal is output from Pin 51 of IC501. Flashing of the INTERCOM LED (LED551) is obtained from Pin 73 of IC501. This status is called "Intercom stand-by".

3) The receiving signal flows:
Pin 47 of IC501→ Q801 (Pin 47 of IC501 Low→ High)→ R838→ C837→ Pin 15 of IC805→ Speaker.

4) The transmission signal flows:
MIC→ IC806 (Amp) [pin 7 is outputted]→ Q803 (Pin 47 of IC501 Low → High)→R872→ C870→ R94→ ANT.
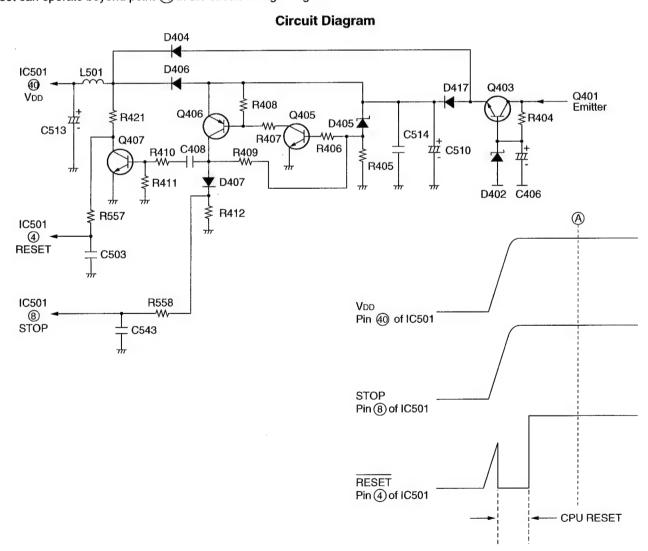
■ INITIALIZING CIRCUIT

Function:
This circuit is used for to initialize the microcomputer when it incorporates an AC adaptor.

Circuit Operation:
When the AC Adaptor is inserted into the unit, then the voltage is shifted by D417 and power is supplied to the CPU.
The set can operate beyond point Ⓐ in the circuit voltage diagram.

Circuit Diagram

−43−

KX-TCM526BX-B
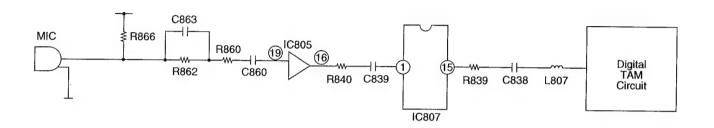
■ GREETING RECORDING CIRCUIT

Circuit Operation:

MIC → R862 → C860 → Pin 19 of IC805 → Pin 16 of IC805 → R840 → C839 → Pin 1 of IC807 → Pin 15 of IC807 → R839 →
C838 → L807 → Digital TAM Circuit.
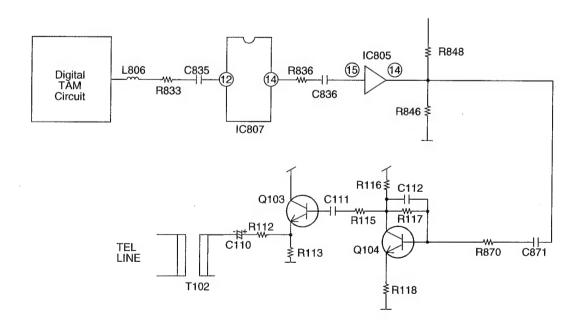
Circuit Diagram

■ GREETING PLAY BACK CIRCUIT

Circuit Operation:

Digital TAM Circuit → L806 → R833 → C835 → Pin 12 of IC807 → Pin 14 of IC807 → R836 → C836 → Pin 15 of IC805 → Pin 14 of
IC805 → C871 → R870 → base of Q104 → collector of Q104 → Base of Q103 → emitter of Q103 → C110 → T101 → Telephone Line.

Circuit Diagram
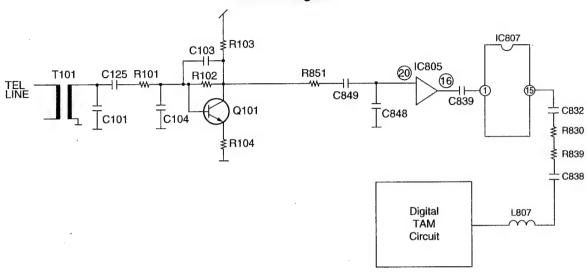
ICM RECORDING CIRCUIT

Circuit Operation:

Telephone Line → T101 → C125 → R101 → Q101 → R851 → C849 → Pin 20 of IC805 → Pin 16 of IC805 → C839 → Pin 1 of IC807 → Pin 15 of IC807 → C832 → R830 → R839 → C838 → L807 → Digital TAM Circuit.
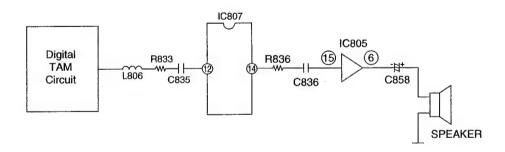
Circuit Diagram

ICM PLAY CIRCUIT

Circuit Operation:

Digital TAM Circuit → L806 → R833 → C835 → Pin 12 of IC807 → Pin 14 of IC807 → R836 → C836 → Pin 15 of IC805 → Pin 6 of IC101 → C858 → Speaker.

Circuit Diagram

KX-TCM526BX-B

■ AUTO DISCONNECT CIRCUIT

Function:

This circuit is used to detect the fact that another telephone connected to the same line is OFF-HOOK while the unit is in a receiving status or OGM transmitting status.
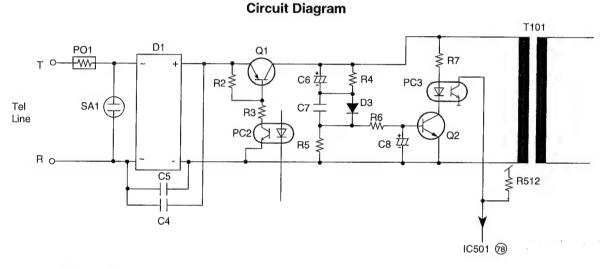
Circuit Operation:

T → PO1 → D1 → Q1 → R4 → D3 → R6 → Q2. During this interval C8 charges and the base of Q1 becomes High, causing Q1 to go ON.

If a parallel-connected telephone is put into an OFF HOOK status, charge ceases to flow to C6, and the base of Q1 becomes Low, causing Q1 to go OFF.

However, the system is designed so that if the voltage fluctuation is small, the charging and discharging of C8 has no effect on the system.

When a line is connected, Q1 goes ON, causing Pin 78 of IC501 to go low. When the line is disconnected, Q1 goes off, causing Pin 78 of IC501 to go high.

Circuit Diagram
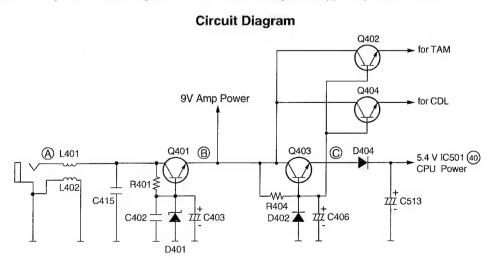
■ POWER SUPPLY CIRCUIT

Function:

Power from the AC adaptor passes through a 2-stage regulating block consisting of Q401, Q402, Q403 and Q404 and provides system voltages of 5.4 and 9 V.

Circuit Operation:

Power from the AC adaptor is supplied directly to the plunger. Q401 is a regulated power supply. The voltage at point Ⓑ is regulated to 9 V by the zener voltage of D401→Amp power. Q402, Q403 and Q404 are a regulated power supply. The voltage at point Ⓒ is regulated to 6 V by the zener voltage of D402. The 6 V voltage is dropped by D414 to 5.4 V.

Circuit Diagram

−46−

■ DSP (Digital Speech/Signal Processing) CIRCUIT
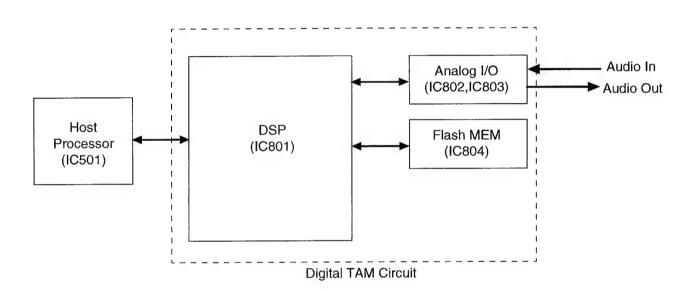
General Description:

IC801~IC804 are a digital speakerphone/speech/signal processing system that implements all the functions of speech compression, record and playback, and memory management required in a digital telephone answering machine.

The DSP system is fully controlled by a host processor (IC501), via 8 bit interface. The host processor provides activation and control of all that functions, such as speech Recording, Playback, Tone detecting and Line Monitoring.

The DSP system comprises of following.

——— a Digital Signal Processor which includes the firmware implemented functions.
——— a Codec (IC802, IC803), which is used as the analog I/O interface.
——— an Audio grade Flash MEM (IC804), which is used for stored voice messages, and Symthesized Voice.

Digital TAM Circuit

• **Voice Message Recording**

The DSP system use a proprietary speech compression technique to record and store voice message in the Flash MEM (IC804). An error correction algorithm is used to enable playback of these messages from the Flash MEM.

• **DTMF Detection**

The DTMF detection is implemented by the DSP system in software. The DTMF detection is performed during Record, Playback, and Line Monitoring modes of operation.

• **Synthesized Voice**

The DSP implements synthesized Voice, utilizing the built in speech detector and an external Flash MEM (IC804), which stored the vocabulary.

■ CPC (CALLING PARTY CONTROL) DETECTOR CIRCUIT

Function:
The CPC DETECTOR complements the units shut off, in the ANSWER mode, after the caller hangs up. At this time, the CPC DETECTOR takes over.
The CPC DETECTOR senses the temporary disconnection of the telephone line which occurs after the caller hangs up.
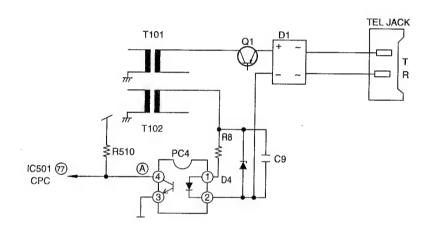
Circuit Operation:
When off-hook, the DC current of telephone line flows as follows:
T→D1→T101→R8→PC4→D1→R
When in the off-hook mode, the collector of PC4 is at Low level.
If an instant break down of the telephone line occurs, the collector of phototransistor goes to a high level from a low level.
(The CPC detector is designed for the instant break down of more than 8 msec. or 600 msec.)
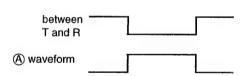
Circuit Diagram

CPC Function

	A	B
OK	more than 8 ms	more than 600 ms
NG	less than 5 ms	less than 350 ms

—48—
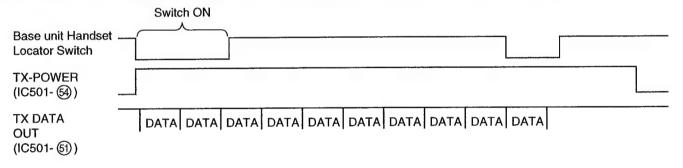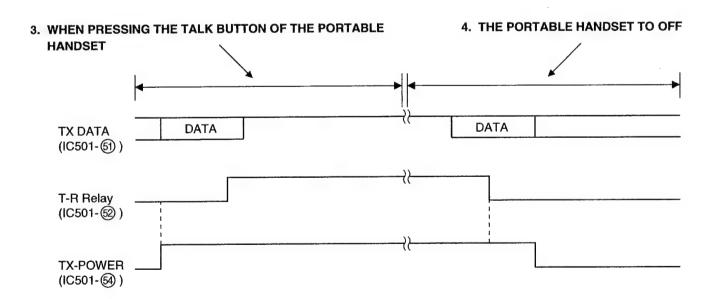
■ CPU OPERATION

1. TEL MODE

CPU Terminals / Operation Mode	18 TX POW	19 TX DATA	21 TR-RLY	41 BEEP
STANDBY	L	H	H	L
TALK	H	H	L	L
Portable Handset→Base Unit Paging	H	DATA OUTPUT	H	⊓⊓⊓
Base Unit→Portable Handset Ring	H	DATA	H	L
Base Unit→Portable Handset Paging	H	DATA	H	⊓⊓⊓
CHARGE	L	DATA	H	L
CH Changing (TALK)	H	DATA	L	L

← The base unit mode is :
- OFF : LOW
- LOW : ⊓⊓⊓
- HIGH : ⊓⊓⊓

2. TIMING OF IC501 (CPU) OUTPUT PORT WITH THE BASE UNIT IN HANDSET LOCATOR MODE

Switch ON

Base unit Handset Locator Switch

TX-POWER (IC501- ㉚)

TX DATA OUT (IC501- ㉛)

| DATA | DATA | DATA | DATA | DATA | DATA | DATA | DATA | DATA | DATA |

3. WHEN PRESSING THE TALK BUTTON OF THE PORTABLE HANDSET

4. THE PORTABLE HANDSET TO OFF

TX DATA (IC501- ㉛)

| DATA | | DATA |

T-R Relay (IC501- ㊵)

TX-POWER (IC501- ㉚)

4. RESONANCE PREVENTION CIRCUIT

Circuit Diagram

Ring signal

• T-R

• PC1-①

• PC1-④

50% 50%
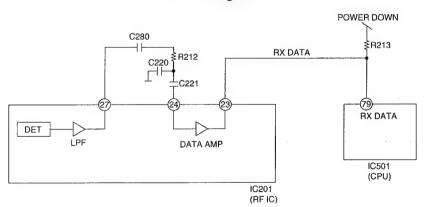
Make/break ratio when dialing with the Portable handset: 40%: 60%
High/low ratio upon ring signal: 50%: 50%
Therefore, if the low/high ratio is greater than 45% at IC501- ⑦ (CPU), it is judged as a ring signal.

5. EXPLANATION OF THE DATA RECEPTION CIRCUIT
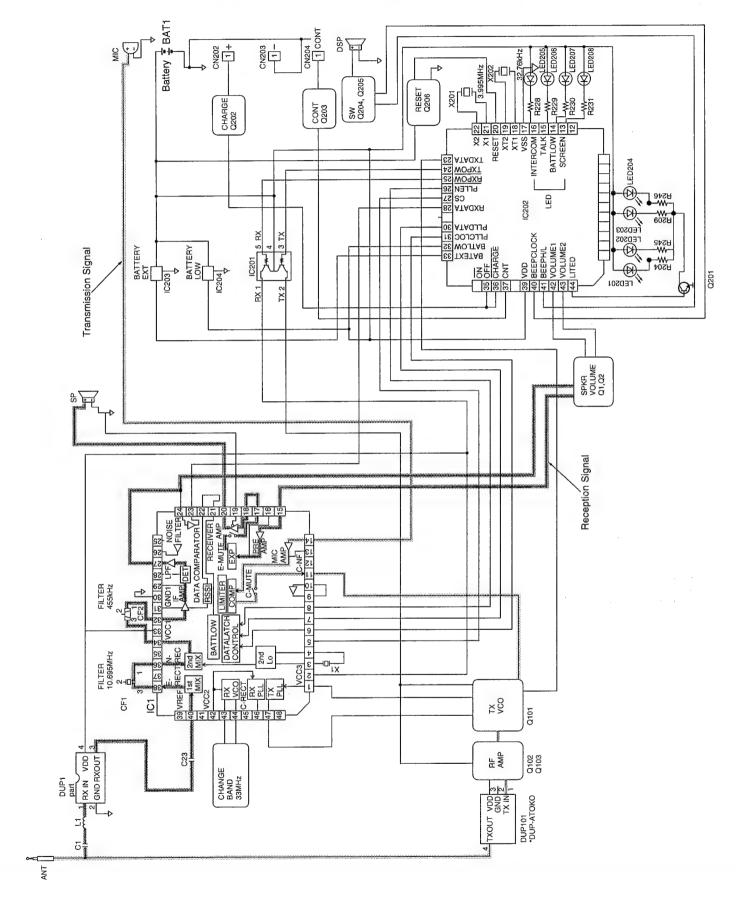
5-1. Signal Flow

Circuit Diagram

In area where the transmission power from the portable handset is extremely weak, noise is superimposed on the data and the chance of an error can become extremely great upon reception of the data. To help prevent this, the above circuit is used.

BLOCK DIAGRAM (PORTABLE HANDSET)

NEW CIRCUIT OPERATION (PORTABLE HANDSET)

■ RECEIVER RF IF CIRCUIT
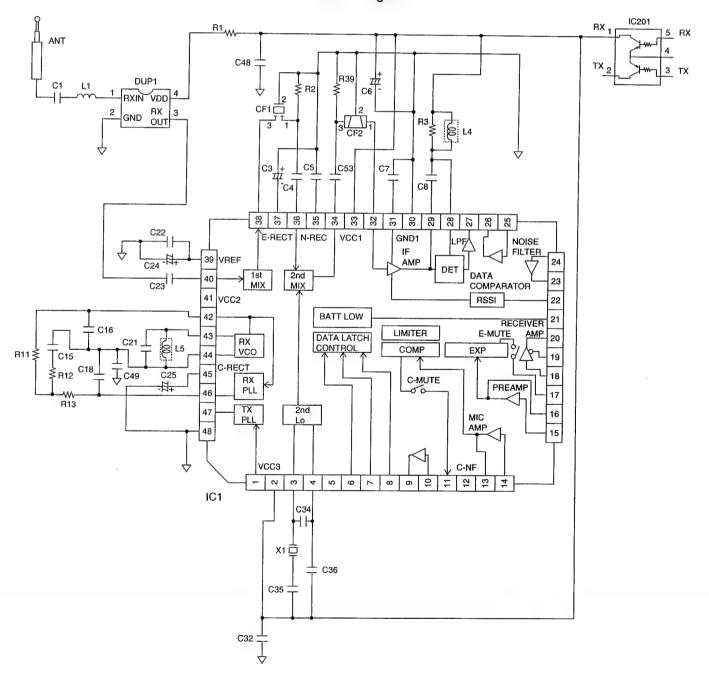
Circuit Operation:

The signal of 44 MHz band (43.72 MHz~44.20 MHz) which is input from ANT is filtered by DUP1, and is input to Pin 40 of IC1.

The RX VCO which oscillates at L5 and IC1 is locked to 1st Local frequency by PLL inside IC1. (PLL is controlled by serial data output from Pin 26, 30 and 31 of IC202.)

An input signal from Pin 40 of IC1 and 1st Local frequency output from RX VCO are mixed inside IC1, pass through CF1, and 1st IF frequency of 10.695 MHz is generated.

Further, 10.240 MHz and 10.695 MHz oscillated at X1, pass through MIXER inside IC1 and are filtered at CF2 and output 2nd IF 455 kHz.

Circuit Diagram

■ RECEIVER SIGNAL CIRCUIT
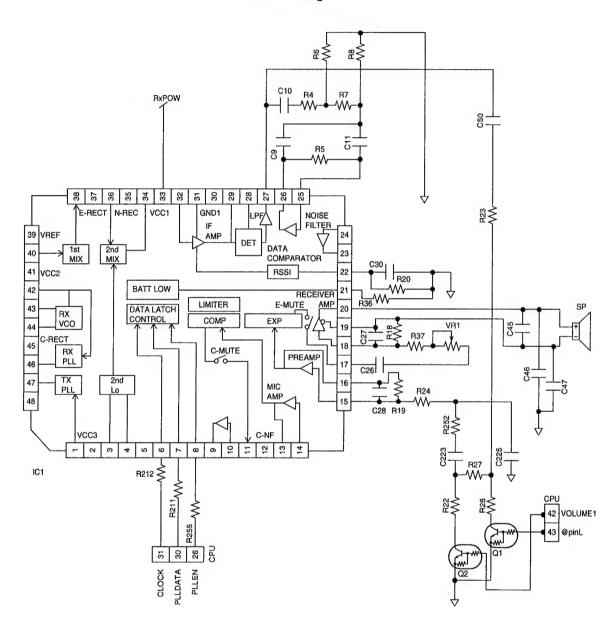
Circuit Operation:

After getting the 455kHz signal,it is input to Pin 32 of IC1 and passes through if AMP and Detector Circuit are output to Pin 27.
It is an AF signal flows through C50,R23. Its level is switched by Q2 and Q1 which are controlled by the CPU.
The signal is received at Pin 15 of IC1,then it passes through the following circuits : PRIAMP,Expander and Amplifier : It goes out at Pin 20 and finally is sent to the SP.
Inside IC1,E-MUTE,C-MUT and PLL circuits are controlled by the serial data that the CPU send from Pins 26,31 and 32.

Circuit Diagram
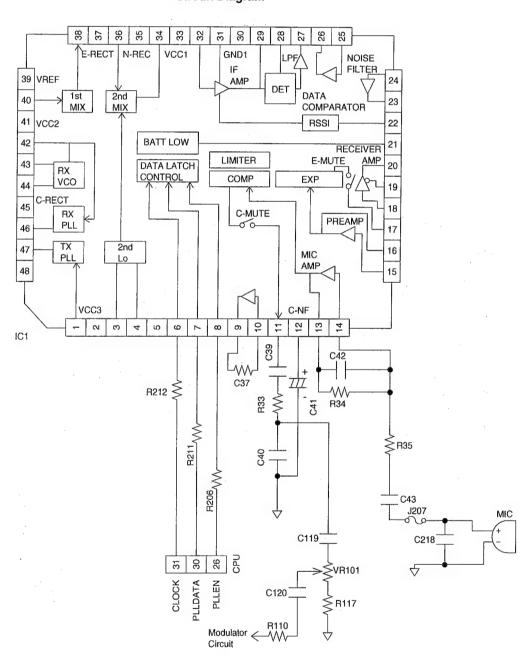
■ TRANSMITTER SIGNAL CIRCUIT

Circuit Operation:

Input signal from MIC passes through the filters arranged by C43,R35 and C42,R34 and it is input to the Pin 14 of IC1.
Inside it, the signal passes through the MIC AMP and Compressor circuits and is output to Pin 11.
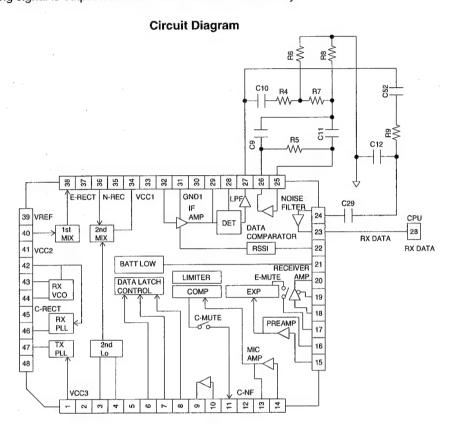
It flows through C39, R33, C119 and VR101, then is input to modulator circuit.

Circuit Diagram

■ RECEIVER DATA CIRCUIT

Circuit Operation

Only the data received are passed through the low pass filter conformed by R9 and C12to be input at pin 24 of IC1,where the its wave forme is adjusted. The resulting signal is output from Pin 23 and sent to CPU directly.

Circuit Diagram
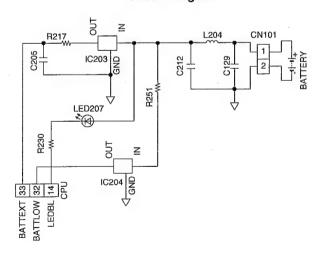
■ BATTERY LOW DETECTOR CIRCUIT

Circuit Operation:

When the battery voltage goes down less than 3.55V. This level is detected by the input of IC 204,so its output becomes from a high state to low state. The CPU detects this level by its Pin 32 and battery low indicator lights starts flashing.
The IC203 check the level of the battery,if this level is less than 3.0V, the output of IC203 becomes to low state,then CPU stops working to keep memory.

Circuit Diagram

NORMAL CIRCUIT OPERATION (PORTABLE HANDSET)

■ CPU OPERATION

CPU Terminals / Operation Mode	23 TX DATA	25 RX POW	24 TX POW	41 BEEP	15 TALKLED
STANDBY	L	Intermittently H or L	H	H	H
TALK	L	L	L	H	L
Base Unit→Portable Handset Ring	—	L	H	L	FLASHING
Base Unit→Portable Handset Paging	—	L	H	L	H
CHARGE	L	H	H	H	H
During (TALK)	—	L	L	H	L
Portable Handset PULSE DIAL	DATA	L	L	H	FLASHING
Portable Handset TONE DIAL	DATA	L	L	H	L
Portable Handset OFF MODE	L	H	H	H	H

■ RESET CIRCUIT POWER ON/OFF CIRCUIT

Reset circuit

There are two ways to reset CPU.

1. When the battery is connected, there is an impulse through C210 then Q206 generates an reset signal wich is received in Pin 20 of CPU.

2. When the portable handset is charged, the impulse is sent through C209,Q206 generates the reset signal and it is sent to Pin 20 of CPU.

Circuit Diagram

Timing Chart

TROUBLESHOOTING GUIDE

Symptom	Refer to page –.	Unit for repair
The base unit does not respond to a call from portable handset.		
The base unit does not transmit or the transmit frequency is off.		
The transmit frequency is off.		
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.		
The reception sensitivity of base unit is low with noise.	18,19	
The transmit level is large or small.		
The reception level is large or small.		
The unit does not link.		
The In Use/Charge indicator does not flash.	72,73	Base Unit
The charge indicator does not light.	73	
The beep is not heard from the portable handset.	73	
No power/dead.	74	
Does not record.	75	
Does not playback.	75	
Cannot find the synthesized voice.	76	
End of message is clipped when caller hangs up.	76	
When speakerphone works, does not receive.	77	
When speakerphone works, does not transmit.	77	
The movement of battery low indicator is wrong.		
The base unit does not respond to a call from portable handset.		
The base unit does not transmit or the transmit frequency is off.		
The transmit frequency is off.		
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.	39, 40	
The reception sensitivity of base unit is low with noise.		Portable Handset
Does not link between base unit and portable handset.		
The reception level is large or small.		
The transmit level is large or small.		
After stand-by mode, the portable handset does not becomes the battery save mode.	78	
The beep is not heard from the portable handset.	79	
The TALK indicator does not flash.	79	

TROUBLESHOOTING GUIDE (BASE UNIT)
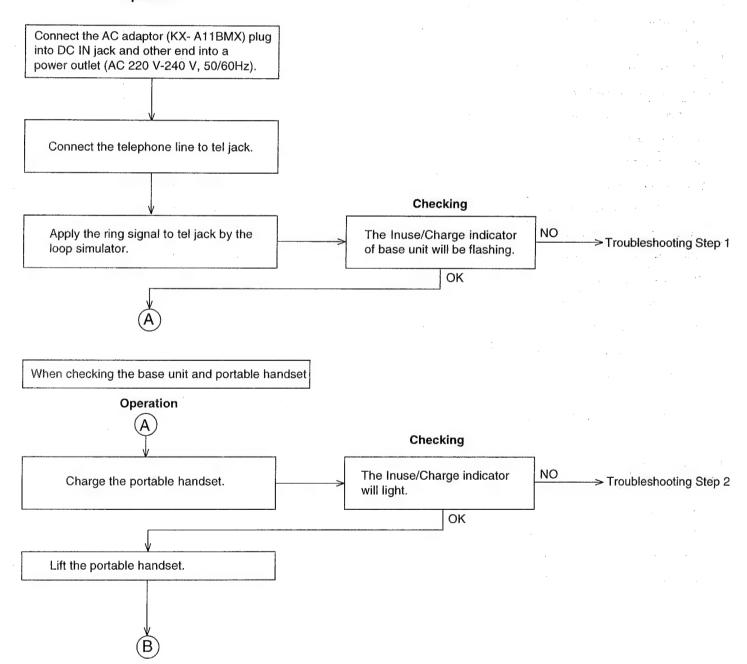
Base Unit Condition:
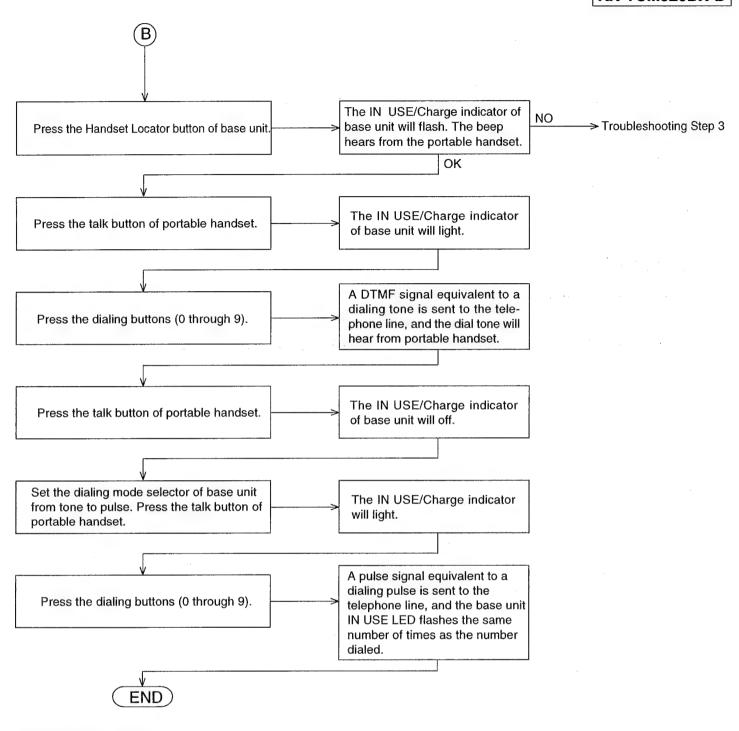
1. Set the Volume/Ringer button to "MAX".
2. Set the dialing mode selector to "Tone".

When checking the base unit only

Check the base unit as shown by following below flow chart.

Operation

Connect the AC adaptor (KX- A11BMX) plug into DC IN jack and other end into a power outlet (AC 220 V-240 V, 50/60Hz).

↓

Connect the telephone line to tel jack.

↓

Apply the ring signal to tel jack by the loop simulator.

Checking

The Inuse/Charge indicator of base unit will be flashing. → NO → Troubleshooting Step 1

OK

Ⓐ

When checking the base unit and portable handset

Operation

Ⓐ

↓

Charge the portable handset.

Checking

The Inuse/Charge indicator will light. → NO → Troubleshooting Step 2

OK

↓

Lift the portable handset.

↓

Ⓑ

(B)

Press the Handset Locator button of base unit. → The IN USE/Charge indicator of base unit will flash. The beep hears from the portable handset. → NO → Troubleshooting Step 3

OK

Press the talk button of portable handset. → The IN USE/Charge indicator of base unit will light.

Press the dialing buttons (0 through 9). → A DTMF signal equivalent to a dialing tone is sent to the telephone line, and the dial tone will hear from portable handset.

Press the talk button of portable handset. → The IN USE/Charge indicator of base unit will off.

Set the dialing mode selector of base unit from tone to pulse. Press the talk button of portable handset. → The IN USE/Charge indicator will light.

Press the dialing buttons (0 through 9). → A pulse signal equivalent to a dialing pulse is sent to the telephone line, and the base unit IN USE LED flashes the same number of times as the number dialed.

(END)

Troubleshooting Step 1:

The In Use/Charge indicator (LED551) does not flash.

Check the ring detector circuit.

Check Point
① Pin 4 of PC 1 output voltage.

5.5 V

Check IC501 (CPU).

Check Point
① Pin 77 of IC501 ring input voltage.

5.5 V

KX-TCM526BX-B

Check the charge detector circuit.

Check Point
① Is the ⊖ contact of base unit is low logic level?

Check LED551.
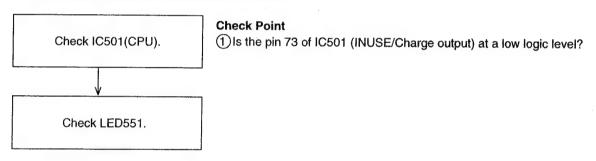
Troubleshooting Step 3:

1) The INUSE/CHARGE indicator does not flash.

Check IC501(CPU).

Check Point
① Is the pin 73 of IC501 (INUSE/Charge output) at a low logic level?

Check LED551.

2) The beep is not heard from the portable handset.

Check the data transmition during charge mode.

Check Points
① Pin 51 of IC 501 data output voltage.

5.5 Vp-p   Check during charge mode

② Collector of Q408 output voltage.

2.7 Vp-p

Check the modulation circuit (D301).

Check the oscillation circuit.

Check Point
① Is the base of Q302 (TX VCO)?
② Is the Pin 47 of IC201?
③ Are the Pins 44, 45, 46 of IC501 (PLL control)?

5.5 Vp-p

Check the transmitter amplifier.

Check Point
① Is the base of Q301 (Final power amplifier)?

(TAM SECTION)

1. NO POWER/DEAD

```
┌─────────────────────┐
│ Is the AC Adaptor   │      ┌──────────────────────┐  NO   ┌──────────────────────────┐
│ (KX-A11BMX) inserted │─────▶│ Is Q402 emitter voltage 6V? │─────▶│ Check Q402, Q401 and    │
│ into 220 V-240 V outlet? │  └──────────────────────┘       │ D408.                    │
└─────────────────────┘              │                        └──────────────────────────┘
                                    YES
                                     ▼
                           ┌──────────────────────┐  NO   ┌──────────────────────────┐
                           │ Is Pin 40 of IC501 5.4V? │─────▶│ Check D402,Q403.         │
                           └──────────────────────┘       └──────────────────────────┘
                                     │
                                    YES
                                     ▼
                           ┌──────────────────────┐  NO   ┌──────────────────────────┐
                           │ Does a reset signal appear │──▶│ Check Q405, Q406, Q407  │
                           │ at Pin 4 of IC501 after the │   │ and D405.                │
                           │ AC Adaptor is plugged in?  │   └──────────────────────────┘
                           │ ............... Reset      │
                           └──────────────────────┘
                                     │
                                    YES
                                     ▼
                           ┌──────────────────────┐  NO   ┌──────────────────────────┐
                           │ Dose Pin 3 of IC501 oscillate │▶│ Check X501, C501 and C502. │
                           │ 7.952 MHz?            │       └──────────────────────────┘
                           └──────────────────────┘
                                     │
                                    YES
                                     ▼
                           ┌──────────────────────┐  NO   ┌──────────────────────────┐
                           │ Dose Pin 6 of IC501 oscillate │▶│ Check X502, C504 and C505. │
                           │ at 32.8 kHz?          │       └──────────────────────────┘
                           └──────────────────────┘
                                     │
                                    YES
                                     ▼
                           ┌──────────────────────┐
                           │ Check IC501.         │
                           └──────────────────────┘
```

KX-TCM526BX-B

2. DOES NOT RECORD

```
┌─────────────────────────┐
│   Insert the AC Adaptor. │
└─────────────────────────┘
            │ NO
            ▼
┌─────────────────────────┐     NO    ┌─────────────────────────┐
│ Dose the LCD shows E1,   │ ────────> │  Check Digital TAM Part. │
│ E2, E3, E5 and E6?       │           └─────────────────────────┘
└─────────────────────────┘
            │ YES
            ▼
┌─────────────────────────┐    YES    ┌─────────────────────────┐
│ Dose a signal appear at Pin│ ──────> │   Check IC803,IC807.     │
│ 16 of IC805.             │           └─────────────────────────┘
└─────────────────────────┘
            │ NO
            ▼
┌─────────────────────────┐    YES    ┌─────────────────────────┐
│ Dose a signal appear at Pin 1│ ────> │     Check IC805.         │
│ of T101.                 │           └─────────────────────────┘
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│  Check Q1, D1 and PO1.   │
└─────────────────────────┘
```

3. DOES NOT PLAYBACK

```
┌─────────────────────────┐     NO    ┌─────────────────────────┐
│ Dose a signal appear at Pin│ ──────> │     Check IC803.         │
│ 1 of IC803 ?             │           └─────────────────────────┘
└─────────────────────────┘
            │ YES
            ▼
┌─────────────────────────┐     NO    ┌─────────────────────────┐
│ Dose a signal appear at Pin 6│ ────> │     Check IC805.         │
│ of IC805 ?               │           └─────────────────────────┘
└─────────────────────────┘
            │ YES
            ▼
┌─────────────────────────┐
│   Check the Speaker.     │
└─────────────────────────┘
```

4. CANNOT FIND THE SYNTHESIZED VOICE

```
┌─────────────────────────┐   NO   ┌─────────────────────────┐
│ Dose a signal appear at │ ─────> │ Check IC804 and IC803.  │
│ Pin 1 of IC803 ?        │        │                         │
└─────────────────────────┘        └─────────────────────────┘
            │ YES
            ▼
┌─────────────────────────┐   NO   ┌─────────────────────────┐
│ Dose a signal appear at │ ─────> │ Check IC805.            │
│ Pin 6 of IC805 ?        │        │                         │
└─────────────────────────┘        └─────────────────────────┘
            │ YES
            ▼
┌─────────────────────────┐
│ Check Seaker.           │
└─────────────────────────┘
```

5. END OF MESSAGE IS CLIPPED WHEN CALLER HANGS UP.

When caller hangs up, the KX-TCM526BX-B can detect the following 4 signal type.
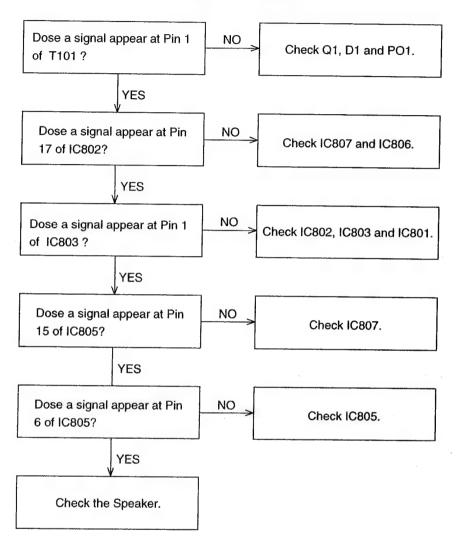
A. CPC pulse.
B. Dial tone or other continuous tones.
C. Silence.
D. Cycle signals.

A. Check CPC DETECTOR CIRCUIT (D4, R8, C9, R501 and PC4)
B.,C.,D
Check VOX DETECTOR CIRCUIT (IC805, R843, R841, C841 and C846)
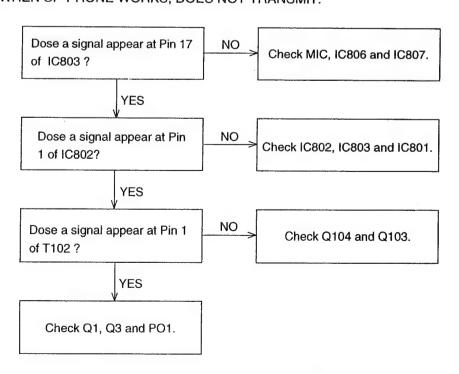
6. WHEN SP-PHONE WORKS, DOES NOT RECEIVE.

Dose a signal appear at Pin 1 of T101 ?	→ **NO** → Check Q1, D1 and PO1.

↓ YES

Dose a signal appear at Pin 17 of IC802?	→ **NO** → Check IC807 and IC806.

↓ YES

Dose a signal appear at Pin 1 of IC803 ?	→ **NO** → Check IC802, IC803 and IC801.

↓ YES

Dose a signal appear at Pin 15 of IC805?	→ **NO** → Check IC807.

↓ YES

Dose a signal appear at Pin 6 of IC805?	→ **NO** → Check IC805.

↓ YES

Check the Speaker.

7. WHEN SP-PHONE WORKS, DOES NOT TRANSMIT.

Dose a signal appear at Pin 17 of IC803 ?	→ **NO** → Check MIC, IC806 and IC807.

↓ YES

Dose a signal appear at Pin 1 of IC802?	→ **NO** → Check IC802, IC803 and IC801.

↓ YES

Dose a signal appear at Pin 1 of T102 ?	→ **NO** → Check Q104 and Q103.

↓ YES

Check Q1, Q3 and PO1.

TROUBLESHOOTING GUIDE (PORTABLE HANDSET)
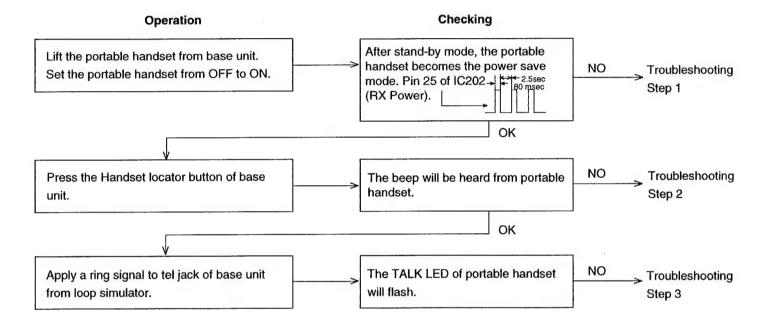
Use the right base unit for this troubleshooting.
Charge the battery of the portable handset by the base unit.
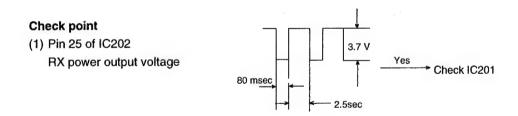
Base unit condition:

1. Connect the AC Adaptor (KX-A11BMX) plug into DC IN jack and the other end into a power outlet (AC 220 V-240 V, 50/60Hz).
2. Connect the loop simulator (DC 48 V) to tel jack.

Check the portable handset as shown by following below flow chart.

Operation	Checking		
Lift the portable handset from base unit. Set the portable handset from OFF to ON.	After stand-by mode, the portable handset becomes the power save mode. Pin 25 of IC202 (RX Power). 2.5sec 80 msec	**NO** →	Troubleshooting Step 1
	OK		
Press the Handset locator button of base unit.	The beep will be heard from portable handset.	**NO** →	Troubleshooting Step 2
	OK		
Apply a ring signal to tel jack of base unit from loop simulator.	The TALK LED of portable handset will flash.	**NO** →	Troubleshooting Step 3

Troubleshooting Step 1: After stand-by mode, the portable handset does not becomes the battery save mode.

Check point

(1) Pin 25 of IC202
    RX power output voltage

3.7 V

80 msec

2.5sec

Yes → Check IC201

Troubleshooting Step 2: The Beep is not heard on the Portable Handset.

Check Points

After pressing the handset
locator button of base unit
check pin 23 of IC1 (RX data).

OK ↓   NO →

RX power, pin 25 of IC202.   NO →   Check
IC201 pin 1, IC1 pin 33.
Vcc=3.7V

Confirm security code.   NO →

OK ↓

Check
Q203, pin 37 of IC1.

Confirm noise squelch
(According to adjustments)   NO →

OK ↓

Check pin 5 IC1, pin 27,
IC202, noise filter pin 26,
25 of IC1.

Confirm RX VCO.
(According to adjustments)   NO →

Check around RX VCO
circuit. (X1 oscillator,
f=10.240MHz)
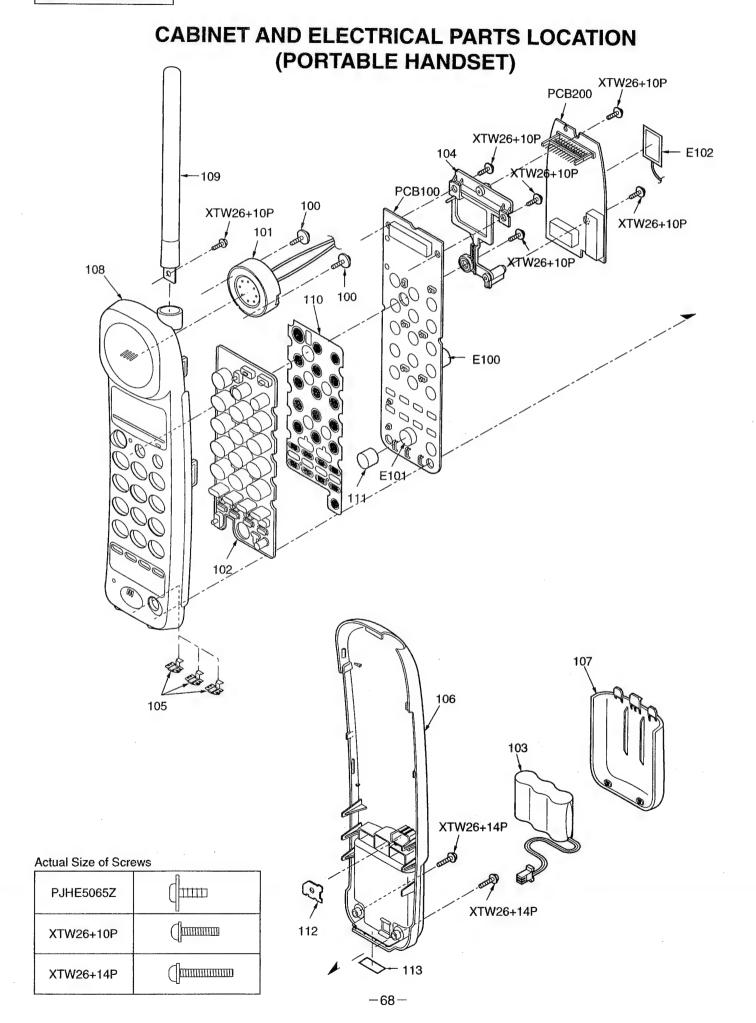
Troubleshooting Step 3: The TALK indicator does not flash (Check the data reception).

Check Point
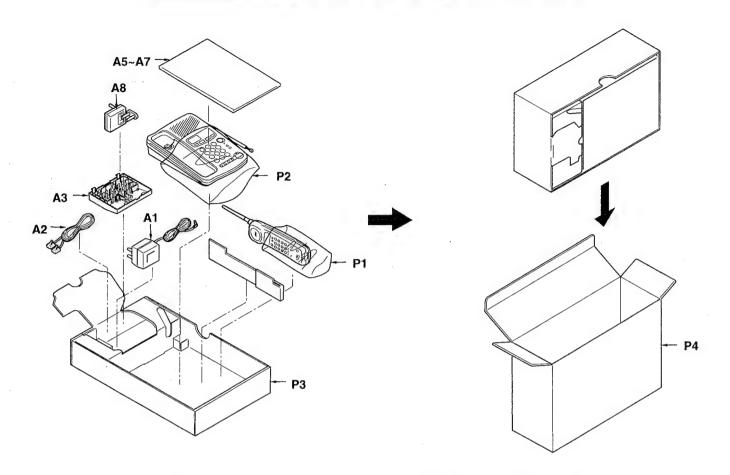
Check the signal level of receiver data circuit on page 68.

CABINET AND ELECTRICAL PARTS LOCATION (BASE UNIT)

XTW3+S8M x 3 pcs

XYC3+CG10FX

XTW3+S8M x 8 pcs

E501

PCB2

PCB1

E4

E1

E3

E2

XTW3+S8M

XTW3+S14P

Actual Size of Screws	
XTW3+S14P	
XTW3+S8M	
XYC3+CG10FX	

CABINET AND ELECTRICAL PARTS LOCATION
(PORTABLE HANDSET)

XTW26+10P

PCB200

104

PCB100

XTW26+10P

XTW26+10P

E102

XTW26+10P

109

XTW26+10P

100

101

XTW26+10P

108

110

100

E100

E101

111

102

105

107

106

103

XTW26+14P

112

XTW26+14P

113

Actual Size of Screws

PJHE5065Z	
XTW26+10P	
XTW26+14P	

ACCESSORIES AND PACKING MATERIALS

A5~A7

A8

A3

A2

A1

P2

P1

P3

P4

EXTENSION CABLE CONNECTING METHOD

Main P.C.Board

ZZ1

RF P.C.Board

This replacement parts list is only for the model : KX-TCM526BX-B.

REPLACEMENT PARTS LIST

Base Unit

Note:
1. RTL (Retention Time Limited)
   The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. Important safety notice.

   Components identified by a ⚠ mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms (Ω) K=1000Ω, M=1000KΩ
   All capacitors are in MICRO FARADS (μF) P= μμF
   *Type &Wattage of Resistor

   Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

   Wattage

   | 10,16:1/8W | 14,25:1/4W | 12:1/2W | 1:1W | 2:2W | 3:3W |

   *Type & Voltage of Capacitor

   Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

   Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V	
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V	
2E:250V	2:200V	1V:35V	1C :16V	1J :63V	
2H:500V		0J:6.3V	1E,25:25V	2A :100V	

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		CABINET & ELECTRICAL PARTS	
1	PQKM10297X4	UPPER CABINET	1
2	PQYF10110V2	LOWER CABINET	1
3	PQBX10284X	BUTTON, 20KEY	1
4	PQBX10285Z	BUTTON, TAM KEY	1
5	PQSX10056Z	SHEET SWITCH	1
6	PQAS65P36Y	SPEAKER	1
7	PQJE10085Z	FLAT CABLE	1
8	XEAPQK170D	ANTENNA	1
9	PQGP10134Z2	LCD PANEL	1
10	PQKE10066Z2	HANGER S	1
11	PQJT10136Z	CHARGE TERMINAL	1
12	PQQT11232Z	INDICATION LABEL	1
13	PQQT11431Z	INDICATION LABEL	1
14	PQJS02P24Y	CONNECTOR (for MIC)	1
15	PQJS02P27Z	CONNECTOR (for SP)	1
16	PQGT12895Z	NAME PLATE	1

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		MAIN P.C.BOARD PARTS	
PCB1	PQWP1M526BXH	P.C.BOARD AS'Y (RTL) ⚠	1
		(ICS)	
IC101	AN6183SAE1	IC	1
IC201	PQVITB31224H	IC	1
IC501	PQVI53MF5005	IC	1
IC502	PQVI93LC46XI	IC S	1
IC801	PQVID6471A	IC	1
IC802	PQVIMCL548DW	IC	1
IC803	PQVIMCL548DW	IC	1
IC804	PQVIKM29N4TC	IC	1
IC805	PQVISC111815	IC	1
IC806	PQVINJM4558M	IC	1
IC807	PQVIBU4053BF	IC	1
		(TRANSISTORS)	
Q1	2SA1625	TRANSISTOR(SI) (or 2SA1776Q) ⚠	1
Q2	2SC1740S	TRANSISTOR(SI) ⚠ (or 2SC3311AS or 2SC3330U)	1
Q3	2SC2120	TRANSISTOR(SI) ⚠	1
Q101	2SD1819A	TRANSISTOR(SI)	1
Q102	PQVTFB1A4M	TRANSISTOR(SI)	1
Q103	2SD1819A	TRANSISTOR(SI)	1
Q104	2SD1819A	TRANSISTOR(SI)	1
Q105	PQVTFB1A4M	TRANSISTOR(SI)	1
Q201	2SK543	TRANSISTOR(SI)	1
Q301	2SC3356R24	TRANSISTOR(SI) (or 2SC2295C) (or 2SC2413KPT146)	1
Q302	2SC2412K	TRANSISTOR(SI)	1
Q351	2SC2295	TRANSISTOR(SI)	1
Q354	PQ4R10XJ000	0	1
Q401	2SD2137	TRANSISTOR(SI)	1
Q402	2SD1994A	TRANSISTOR(SI)	1
Q403	2SD1994A	TRANSISTOR(SI)	1
Q404	2SD1991A	TRANSISTOR(SI)	1
Q405	2SD1819A	TRANSISTOR(SI)	1
Q406	2SB709A	TRANSISTOR(SI)	1
Q407	2SD1819A	TRANSISTOR(SI) (or 2SC4081ST106 or 2SC4155S)	1
Q408	2SD1991A	TRANSISTOR(SI)	1
Q409	2SD1991A	TRANSISTOR(SI)	1
Q410	2SD1991A	TRANSISTOR(SI)	1
Q411	2SD601A	TRANSISTOR(SI)	1
Q501	PQVTDTA114YU	TRANSISTOR(SI)	1
Q502	PQVTDTA114YU	TRANSISTOR(SI)	1
Q503	PQVTDTA114YU	TRANSISTOR(SI)	1
Q801	2SD1819A	TRANSISTOR(SI) (or 2SC4081ST106 or 2SC4155S)	1
Q802	2SB1218A	TRANSISTOR(SI) (or 2SA1576ST106 or 2SA1603S)	1
Q803	2SD1819A	TRANSISTOR(SI) (or 2SC4081ST106 or 2SC4155S)	1
Q804	PQVTFB1A4M	TRANSISTOR(SI)	1
Q805	2SD1819A	TRANSISTOR(SI) (or 2SC4081ST106 or 2SC4155S)	1
Q959	2SB1218A	TRANSISTOR(SI) (or 2SA1576ST106 or 2SA1603S)	1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		(DIODES)	
D1	PQVDS1ZB40F1	DIODE(SI) ⚠	1
D3	MA700A	DIODE(SI) ⚠	1
D4	PQVDMTZ3R6	DIODE(SI) ⚠	1
D201	MA110	DIODE(SI)	1
D202	MA110	DIODE(SI)	1
D250	MA110	DIODE(SI)	1
D251	MA110	DIODE(SI)	1
D301	PQVDKV1832C3	DIODE(SI)	1
D303	1SS119	DIODE(SI)	1
D401	MA4100	DIODE(SI)	1
D402	MA4062	DIODE(SI)	1
D403	1SS119	DIODE(SI)	1
D404	1SS119	DIODE(SI)	1
D405	MA4047	DIODE(SI)	1
D406	1SS119	DIODE(SI)	1
D407	1SS119	DIODE(SI)	1
D409	ECEA1HKS2R2	2.2	1
D412	1SS119	DIODE(SI)	1
D413	MA110	DIODE(SI)	1
D414	MA110	DIODE(SI)	1
D415	1SS119	DIODE(SI)	1
D416	MA4062	DIODE(SI)	1
D417	MA700A	DIODE(SI)	1
D503	MA110	DIODE(SI)	1
D508	MA110	DIODE(SI)	1
D511	MA110	DIODE(SI)	1
D512	MA110	DIODE(SI)	1
D514	MA110	DIODE(SI)	1
D521	1SS119	DIODE(SI)	1
D522	1SS119	DIODE(SI)	1
D523	1SS119	DIODE(SI)	1
D524	MA110	DIODE(SI)	1
D525	MA110	DIODE(SI)	1
D911	MA4220	DIODE(SI) ⚠	1
		(CAPACITOR ARRAYS)	
CA801	EXF1E4470KCV	COMPONENTS PARTS, 47P	1
CA802	EXF1E4470KCV	COMPONENTS PARTS, 47P	1
CA803	EXF1E4470KCV	COMPONENTS PARTS, 47P	1
CA804	EXF1E4331KSL	COMPONENTS PARTS, 330I	1
		(CERAMIC FILTERS)	
CF201	PQVFSFE107MJ	CERAMIC FILTER S	1
CF202	PQVFCFH455F1	CERAMIC FILTER	1
		(CONNECTORS)	
CN1	PQJP3G38Z	CONNECTOR	1
CN501	PQJS30A19Z	CONNECTOR	1
CHARGE	PQJS03P23Z	CONNECTOR	1
MIC CN	PQJP02B59Z	CONNECTOR	1
SP CN	PQJP02B59Z	CONNECTOR	1
		(CRYSTAL OSCILLATORS)	
X201	PQVCK1024LC5	CRYSTAL OSCILLATOR	1
X501	PQVCK7952N4Z	CRYSTAL OSCILLATOR	1
X502	PQVCL3276N6Z	CRYSTAL OSCILLATOR	1
X801	PQVCJ3686N4Z	CRYSTAL OSCILLATOR	1

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		(COILS AND TRANSFORMERS)	
L202	PQLQZK1R2K	COIL	1
L401	PQLQZK1R2K	COIL	1
L450	PQLQZM330K	COIL	1
L451	PQLQZM330K	COIL	1
L452	PQLQZM330K	COIL	1
L501	PQLQZM100K	COIL	1
L502	PQLQZM100K	COIL	1
L801	PQLQZM100K	COIL	1
L803	PQLQZM100K	COIL	1
L804	PQLQZM100K	COIL	1
L806	PQLQZM100K	COIL	1
L807	PQLQZM100K	COIL	1
T101	PQLT3E3A	I/F TRANSFORMER ⚠	1
T102	PQLT3E3A	I/F TRANSFORMER ⚠	1
T201	PQLA7A36	COIL	1
T202	PQLI2B201	COIL	1
T203	PQLA7A22	COIL	1
T301	PQL04A3	COIL	1
T351	PQLA7A9	COIL	1
J401	PQLQZM100K	COIL	1
		(PHOTO COUPLERS)	
PC1	PQVIPC814K	PHOTO ELECTRIC TRANSDUCER ⚠	1
PC2	PQVITLP627	PHOTO ELECTRIC TRANSDUCER ⚠	1
PC3	PQVIPC817CD	PHOTO ELECTRIC TRANSDUCER ⚠	1
PC4	PQVIPC817CD	PHOTO ELECTRIC TRANSDUCER ⚠	1
		(VARIABLE RESISTORS)	
VR201	EVNDXAA03B24	VARIABLE RESISTOR	1
VR301	EVNDXAA03B15	VARIABLE RESISTOR	1
VR302	EVNDXAA03B35	VARIABLE RESISTOR	1
		(RESISTOE ARRAYS)	
RA801	EXRV8V221JV	RESISTOR ARRAY, 220	1
RA802	EXRV8V222JV	RESISTOR ARRAY, 2.2K	1
RA803	EXRV8V222JV	RESISTOR ARRAY, 2.2K	1
RA804	EXRV8V220JV	RESISTOR ARRAY, 22	1
RA805	EXRV8V472JV	RESISTOR ARRAY, 4.7K	1
RA806	EXRV8V472JV	RESISTOR ARRAY, 4.7K	1
RA807	EXRV8V472JV	RESISTOR ARRAY, 4.7K	1
RA808	EXRV8V222JV	RESISTOR ARRAY, 2.2K	1
RA809	EXRV8V221JV	RESISTOR ARRAY, 220	1
RA810	EXRV8V221JV	RESISTOR ARRAY, 220	1
		(OTHERS)	
JJ1	PQJJ1B4Y	JACK, DC IN ⚠	1
CN4	PQJJ1TA15Z	JACK,TEL ⚠	1
DUP201	PQVFH26RX	DUPLEX	1
DUP301	PQVFH26TX	DUPLEX	1
SA1	PQVDDSS301L	VARISTOR ⚠	1
PO1	PQRPAR390N	THERMISTOR ⚠ S	1
E1	PQJM122Z	MICROPHONE	1
E2	PQMG10020Z	SPACER	1
E3	PQMC10252Z	SHIELD COVER	1
E4	PQMC10253Z	SHIELD COVER	1
J2	PQVDDSP272MR	VARISTOR ⚠	1
SW501	PQSS2A27W	SWITCH, DIALING MODE SELECTOR	1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Value			Pcs/Set	Ref. No.	Part No.	Value		Pcs/Set
		(RESISTORS)				R229	ERJ3GEYJ682	6.8K		1
R1	ERDS2TJ473	47K	⚠		1					
R2	ERDS2TJ104	100K	⚠		1	R230	ERJ3GEYJ682	6.8K		1
R3	ERDS2TJ472	4.7K	⚠		1	R231	ERJ3GEYJ103	10K		1
R4	PQ4R10XJ393	39K	⚠ S		1	R232	ERJ3GEYJ103	10K		1
R5	PQ4R10XJ393	39K	⚠ S		1	R233	ERJ3GEYJ395	3.9M		1
R6	PQ4R10XJ562	5.6K	⚠ S		1	R234	ERJ3GEYJ104	100K		1
R7	ERDS2TJ562	5.6K	⚠		1	R235	ERJ3GEY0R00	0		1
R8	ERDS2TJ560	56	⚠		1	R237	ERJ3GEYJ103	10K		1
R10	PQ4R10XJ102	1K	⚠ S		1	R273	ERJ3GEYJ104	100K		1
R12	PQ4R10XJ333	33K	⚠ S		1	R275	ERJ3GEYJ182	1.8K		1
R14	PQ4R10XJ102	1K	⚠ S		1	R276	ERJ3GEYJ471	470		1
R15	PQ4R10XJ392	3.9K	⚠ S		1	R277	ERJ3GEYJ153	15K		1
R16	ERDS2TJ680	68	⚠		1					
R17	ERDS1TJ330	33	⚠ S		1	R302	ERDS2TJ680	68		1
R19	PQ4R10XJ123	12K	⚠ S		1	R303	ERJ3GEYJ102	1K		1
			⚠			R304	ERJ3GEYJ153	15K		1
R63	PQ4R10XJ472	4.7K	⚠ S		1	R305	ERJ3GEYJ223	22K		1
						R306	ERJ3GEYJ221	220		1
R101	ERJ3GEYJ103	10K			1	R307	ERJ3GEYJ102	1K		1
R102	ERJ3GEYJ334	330K			1	R308	PQ4R10XJ220	22	S	1
R103	PQ4R10XJ272	2.7K		S	1	R309	ERJ3GEYJ125	1.2M		1
R104	PQ4R10XJ561	560		S	1					
R106	ERJ3GEYJ682	6.8K			1	R310	ERJ3GEYJ220	22		1
R107	ERJ3GEYJ393	39K			1	R311	PQ4R10XJ103	10K	S	1
R109	ERJ3GEYJ223	22K			1	R312	ERJ3GEYJ223	22K		1
						R313	ERJ3GEYJ223	22K		1
R110	PQ4R10XJ683	68K		S	1					
R112	PQ4R10XJ101	100		S	1	R351	PQ4R10XJ220	22		1
R113	PQ4R10XJ471	470		S	1	R352	PQ4R10XJ561	560		1
R114	PQ4R10XJ104	100K		S	1	R353	PQ4R10XJ473	47K		1
R115	ERJ3GEYJ103	10K			1					
R116	ERJ3GEYJ272	2.7K			1	R374	ERJ3GEYJ822	8.2K		1
R117	ERJ3GEYJ684	680K			1	R375	ERJ3GEYJ563	56K		1
R118	PQ4R10XJ820	82		S	1	R376	PQ4R10XJ473	47K	S	1
R119	PQ4R10XJ473	47K		S	1					
						R380	ERJ3GEY0R00	0		1
R120	PQ4R10XJ103	10K		S	1					
R121	ERJ3GEYJ683	68K			1	R401	ERDS2TJ221	220		1
R122	PQ4R10XJ473	47K		S	1	R403	PQ4R10XJ154	150K	S	1
R123	ERJ3GEY0R00	0			1	R404	ERDS2TJ221	220		1
R128	ERJ3GEYJ104	100K			1	R405	ERJ3GEYJ333	33K		1
R129	PQ4R10XJ820	82		S	1	R406	ERJ3GEYJ224	220K		1
						R407	ERJ3GEYJ154	150K		1
R131	ERJ3GEYJ824	820K			1	R408	ERJ3GEYJ104	100K		1
						R409	ERJ3GEYJ224	220K		1
R202	PQ4R10XJ271	270		S	1					
R204	PQ4R10XJ220	22		S	1	R410	ERJ3GEYJ104	100K		1
R205	ERJ3GEYJ331	330			1	R411	ERJ3GEYJ104	100K		1
R206	ERJ3GEYJ183	18K			1	R412	ERJ3GEYJ184	180K		1
R207	ERJ3GEYJ822	8.2K			1	R414	ERJ3GEYJ473	47K		1
R208	ERJ3GEYJ182	1.8K			1	R415	ERDS2TJ391	390		1
R209	ERJ3GEYJ154	150K			1	R418	ERDS2TJ221	220		1
						R419	PQ4R10XJ103	10K	S	1
R210	ERJ3GEYJ154	150K			1					
R211	ERJ3GEYJ562	5.6K			1	R421	ERJ3GEYJ104	100K		1
R212	PQ4R10XJ153	15K		S	1	R422	ERDS1TJ470	47		1
R213	ERJ3GEYJ104	100K			1					
R214	PQ4R10XJ154	150K		S	1	R502	ERJ3GEYJ106	10M		1
R215	PQ4R10XJ123	12K		S	1	R503	ERJ3GEYJ472	4.7K		1
R216	PQ4R10XJ472	4.7K		S	1	R504	ERJ3GEYJ472	4.7K		1
R218	PQ4R10XJ273	27K		S	1	R505	ERJ3GEYJ472	4.7K		1
R219	PQ4R10XJ562	5.6K		S	1	R506	ERJ3GEYJ222	2.2K		1
						R507	ERJ3GEYJ272	2.7K		1
R220	ERJ3GEYJ333	33K			1	R508	ERJ3GEYJ472	4.7K		1
R221	ERJ3GEYJ334	330K			1	R509	ERJ3GEYJ392	3.9K		1
R222	ERJ3GEYJ103	10K			1					
R226	ERJ3GEYJ106	10M			1	R510	ERDS2TJ271	270		1
R227	ERJ3GEYJ106	10M			1	R511	PQ4R10XJ333	33K	S	1
R228	ERJ3GEYJ104	100K			1	R512	ERJ3GEYJ333	33K		1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Value		Pcs/Set
R513	PQ4R10XJ273	27K	S	1
R514	ERJ3GEYJ392	3.9K		1
R515	ERJ3GEYJ223	22K		1
R516	ERJ3GEYJ105	1M		1
R517	ERJ3GEYJ473	47K		1
R519	ERJ3GEYJ104	100K		1
R520	ERJ3GEYJ104	100K		1
R521	PQ4R10XJ104	100K	S	1
R522	ERJ3GEYJ104	100K		1
R523	ERJ3GEYJ104	100K		1
R524	PQ4R10XJ104	100K	S	1
R525	ERJ3GEYJ473	47K		1
R526	PQ4R10XJ391	390	S	1
R527	PQ4R10XJ681	680	S	1
R528	PQ4R10XJ471	470	S	1
R538	ERJ3GEYJ472	4.7K		1
R539	ERJ3GEYJ104	100K		1
R540	ERJ3GEYJ472	4.7K		1
R541	ERJ3GEYJ472	4.7K		1
R542	ERJ3GEYJ222	2.2K		1
R543	ERJ3GEYJ222	2.2K		1
R545	ERJ3GEYJ472	4.7K		1
R546	ERJ3GEYJ472	4.7K		1
R547	ERJ3GEYJ472	4.7K		1
R548	ERJ3GEYJ472	4.7K		1
R549	ERJ3GEYJ472	4.7K		1
R550	ERJ3GEYJ472	4.7K		1
R551	ERJ3GEYJ472	4.7K		1
R552	ERJ3GEYJ472	4.7K		1
R553	ERJ3GEYJ103	10K		1
R554	ERJ3GEYJ472	4.7K		1
R555	ERJ3GEYJ472	4.7K		1
R557	ERJ3GEYJ102	1K		1
R558	ERJ3GEYJ102	1K		1
R813	ERJ3GEYJ105	1M		1
R814	ERJ3GEYJ681	680		1
R815	ERJ3GEYJ221	220		1
R816	ERJ3GEYJ221	220		1
R821	ERJ3GEYJ220	22		1
R822	ERJ3GEYJ220	22		1
R823	ERJ3GEYJ103	10K		1
R824	ERJ3GEYJ103	10K		1
R825	ERJ3GEYJ153	15K		1
R826	ERJ3GEYJ394	390K		1
R827	ERJ3GEY0R00	0		1
R829	ERJ3GEY0R00	0		1
R830	ERJ3GEY0R00	0		1
R831	ERJ3GEYJ103	10K		1
R832	PQ4R10XJ000	0		1
R833	ERJ3GEYJ103	10K		1
R834	ERJ3GEYJ473	47K		1
R835	ERJ3GEYJ473	47K		1
R836	ERJ3GEYJ123	12K		1
R837	ERJ3GEYJ473	47K		1
R838	ERJ3GEYJ153	15K		1
R839	ERJ3GEYJ103	10K		1
R840	ERJ3GEY0R00	0		1
R841	ERJ3GEYJ682	6.8K		1
R842	PQ4R10XJ103	10K	S	1
R843	PQ4R10XJ822	8.2K	S	1
R844	ERJ3GEYF152	1.5K		1
R845	ERJ3GEYJ683	68K		1
R846	ERJ3GEYJ223	22K		1

Ref. No.	Part No.	Value		Pcs/Set
R847	ERJ3GEYF222	2.2K		1
R848	ERJ3GEYJ223	22K		1
R850	ERJ3GEYJ473	47K		1
R851	ERJ3GEYJ104	100K		1
R852	ERJ3GEYJ103	10K		1
R853	ERJ3GEYF123	12K		1
R854	ERJ3GEYJ334	330K		1
R855	ERJ3GEYJ823	82K		1
R856	ERJ3GEYJ473	47K		1
R857	ERJ3GEYJ103	10K		1
R858	PQ4R10XJ104	100K	S	1
R859	PQ4R10XJ103	10K	S	1
R860	PQ4R10XJ102	1K	S	1
R861	PQ4R10XJ104	100K	S	1
R862	PQ4R10XJ563	56K	S	1
R863	PQ4R10XJ104	100K	S	1
R864	PQ4R10XJ472	4.7K	S	1
R865	PQ4R10XJ124	120K	S	1
R866	PQ4R10XJ182	1.8K	S	1
R867	PQ4R10XJ104	100K	S	1
R868	PQ4R10XJ104	100K	S	1
R869	ERJ3GEYJ473	47K		1
R870	ERJ3GEYJ684	680K		1
R871	ERJ3GEYJ224	220K		1
R872	PQ4R10XJ393	39K	S	1
R873	PQ4R10XJ474	470K	S	1
R874	PQ4R10XJ183	18K	S	1
R877	ERJ3GEYJ392	3.9K		1
R878	ERJ3GEYJ334	330K		1
R879	ERJ3GEYJ332	3.3K		1
R880	ERJ3GEYJ222	2.2K		1
R881	ERJ3GEYJ563	56K		1
R890	ERJ3GEYJ104	100K		1
R891	ERJ3GEYJ105	1M		1
R962	PQ4R10XJ104	100K	S	1
R963	PQ4R10XJ103	10K	S	1
R964	PQ4R10XJ103	10K	S	1
R968	PQ4R10XJ103	10K	S	1
R969	PQ4R10XJ103	10K	S	1
J3	PQ4R10XJ000	0		1
J203	ERJ3GEY0R00	0		1
J301	ERJ3GEY0R00	0		1
J302	ERJ3GEY0R00	0		1
J501	ERJ3GEY0R00	0		1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Value		Pcs/Set	Ref. No.	Part No.	Value		Pcs/Set
		(CAPACITORS)			C231	ECUV1C104KBV	0.1		1
C1	ECQE2224KF	0.22	⚠	1	C232	ECUV1H221JCV	220P		1
C4	ECKD2H681KB	680P	⚠ S	1	C233	ERJ3GEY0R00	0		1
C5	ECKD2H681KB	680P	⚠ S	1	C235	PQCUV1E104MD	0.1	S	1
C6	ECEA1CKA221	220	⚠	1	C236	PQCUV1H102J	1000P	S	1
C7	ECUV1H103KB	0.01	⚠	1	C237	ECUV1H560GCV	56P		1
C8	ECEA1HKS2R2	2.2	⚠ S	1	C238	ECUV1H510GCV	51P		1
C9	PQCUV1E104MD	0.1	⚠ S	1	C239	ECUV1H560GCV	56P		1
C11	ECEA1CKS100	10	⚠ S	1	C241	PQCUV1C105ZF	1		1
C12	PQCUV1H101JC	100P	⚠	1	C242	PQCUV1E104MD	0.1	S	1
C14	PQCUV1H223KB	0.022	⚠	1	C243	ECEA1EU4R7	4.7		1
C15	ECEA1EK470	47	⚠ S	1	C245	ECEA1HKS010	1	S	1
C17	ECEA1CKS220	22	⚠ S	1	C246	PQCUV1H153KB	0.015		1
C18	ECEA1HKS010	1	⚠ S	1	C247	PQCUV1C224ZF	0.22	S	1
					C248	ECUV1H470JCV	47P		1
C50	ECKDNB471MB	470P	⚠	1	C249	PQCUV1H103KB	0.01		1
C101	PQCUV1H102J	1000P	S	1	C250	ECEA1CKS100	10	S	1
C103	ECUV1H271JCV	270P		1	C251	PQCUV1E104MD	0.1	S	1
C104	PQCUV1H222KB	2200P		1	C253	ECUV1H101GCV	100P		1
C105	PQCUV1E104MD	0.1	S	1	C254	PQCUV1H102J	1000P	S	1
C107	PQCUV1E104MD	0.1	S	1	C255	PQCUV1E104MD	0.1	S	1
C110	ECEA1CKS100	10		1	C273	ECUV1C104ZFV	0.1		1
C111	PQCUV1E104MD	0.1	S	1	C275	ECUV1H121GCV	120P		1
C112	ECUV1H101JCV	100P		1	C279	ECUV1H560JCV	56P		1
C113	PQCUV1E104MD	0.1	S	1					
C114	PQCUV1E104MD	0.1	S	1	C280	ECUV1C104KBV	0.1		1
C115	ECUV1C104KBV	0.1		1	C281	ECUV1H472KBV	4700P		1
C116	PQCUV1C105ZF	1		1					
C117	PQCUV1E104MD	0.1	S	1	C301	PQCUV1H103ZF	0.01		1
C118	PQ4R10XJ000	0		1	C303	ECUV1H100DCV	10P		1
					C304	ECUV1H103KBV	0.01	S	1
C122	PQCUV1H392KB	3900P		1	C305	ECUV1H470JCV	47P		1
C123	PQCUV1H101JC	100P		1	C306	ECUV1H470JCV	47P		1
C124	PQCUV1H102J	1000P	S	1	C307	ECUV1H470JCV	47P		1
C125	ECUV1H392KBV	3900P		1	C308	ECEA1HKS010	1	S	1
C126	PQCUV1E104MD	0.1	S	1	C309	ECUV1H120JUV	12P		1
C128	ECA1AM102	1000		1					
					C310	ECUV1H680JCV	68P		1
C201	ERJ3GEY0R00	0		1	C311	ECUV1H681JCV	680P	S	1
C203	ECUV1C104ZFV	0.1		1	C313	ECUV1C104KBV	0.1		1
C204	PQCUV1H103KB	0.01		1	C314	ECUV1H220JCV	22P		1
C205	PQCUV1H103KB	0.01		1	C315	PQCUV1H103ZF	0.01		1
C206	ECUV1H102KBV	1000P		1	C316	ERJ3GEY0R00	0		1
C207	ECEA1CKS100	10	S	1					
C208	PQCUV1E104MD	0.1	S	1	C351	ECUV1H390JCV	39P		1
C209	ECEA1HKS2R2	2.2	S	1	C353	ECUV1H103KBV	0.01		1
					C355	ECUV1H030CCV	3P		1
C210	ECUV1H102KBV	1000P		1	C356	ECUV1H103KBV	0.01		1
C211	PQCUV1E104MD	0.1	S	1					
C212	PQCUV1E104MD	0.1	S	1	C374	ECUV1C104KBV	0.1		1
C213	PQCUV1E104MD	0.1	S	1					
C214	ECUV1H270JCV	27P	S	1	C384	ECUV1C104KBV	0.1		1
C215	ECUV1C104ZFV	0.1		1					
C216	ECEA1EK470	47	S	1	C402	PQCUV1E104MD	0.1	S	1
C217	ECUV1H472KBV	4700P		1	C403	ECEA1CU471	470		1
C218	ECUV1H221JCV	220P		1	C404	ECEA1CU331	330		1
C219	ECUV1H221JCV	220P		1	C406	ECEA1AU331	330		1
					C408	PQCUV1C224ZF	0.22	S	1
C220	PQCUV1C683KB	0.068		1					
C221	PQCUV1E473MD	0.047	S	1	C410	PQCUV1H103KB	0.01		1
C222	PQCUV1H103KB	0.01		1	C411	PQCUV1E104MD	0.1	S	1
C223	PQCUV1H331JC	330P	S	1	C412	ECEA0JU331	330		1
C226	PQCUV1H222KB	2200P		1	C413	ECEA0JKA331	330		1
C227	PQCUV1C683KB	0.068		1	C414	PQCUV1E104MD	0.1	S	1
C228	ECUV1H472KBV	4700P		1	C415	ECUV1E105ZF	1		1
C229	ECUV1H101JCV	100P		1					
					C501	ECUV1H330JCV	33P		1
C230	ECEA1HKS010	1	S	1	C502	ECUV1H330JCV	33P		1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Value		Pcs/Set
C503	ECUV1C104ZFV	0.1		1
C504	ECUV1H180JCV	18P		1
C505	ECUV1H180JCV	18P		1
C509	ERJ3GEY0R00	0		1
C510	EECW5R5D473	0.047	S	1
C511	ECUV1C104ZFV	0.1		1
C512	ECUV1H103KBV	0.01		1
C513	ECEA0JU102	1000		1
C514	ECUV1C104ZFV	0.1		1
C515	ECUV1C104ZFV	0.1		1
C517	ECUV1C104ZFV	0.1		1
C542	ECUV1C104KBV	0.1		1
C543	ECUV1C104KBV	0.1		1
C546	ECUV1C104ZFV	0.1		1
C813	ECUV1H120JCV	12P		1
C814	ECUV1H120JCV	12P		1
C815	ECUV1H470JCV	47P		1
C816	ECUV1H470JCV	47P		1
C817	PQCUV1E104MD	0.1	S	1
C818	PQCUV1C105ZF	1		1
C819	ECUV1H101JCV	100P		1
C820	ECUV1C104ZFV	0.1		1
C821	ECUV1C104ZFV	0.1		1
C822	ECEA1CK101	100	S	1
C823	ECUV1H101JCV	100P		1
C824	ECUV1C104ZFV	0.1		1
C825	ECUV1C104ZFV	0.1		1
C826	PQCUV1E104MD	0.1	S	1
C827	PQCUV1E104MD	0.1	S	1
C829	ECUV1C104ZFV	0.1		1
C830	PQCUV1E104MD	0.1	S	1
C831	PQCUV1C105ZF	1		1
C832	PQCUV1C105ZF	1		1
C833	ECUV1C104KBV	0.1		1
C834	ECUV1C104ZFV	0.1		1
C835	ECUV1C104KBV	0.1		1
C836	PQCUV1C105ZF	1		1
C837	ECUV1C683KBV	0.068		1
C838	PQCUV1E104MD	0.1	S	1
C839	PQCUV1C105ZF	1		1
C840	PQCUV1E473MD	0.047	S	1
C841	PQCUV1H123MD	0.012	S	1
C842	ECUV1H103KBV	0.01		1
C843	ECUV1C104ZFV	0.1		1
C845	PQCUV1E104MD	0.1	S	1
C846	PQCUV1C683KB	0.068		1
C847	ECUV1H332KBV	3300P		1
C848	ECUV1H332KBV	3300P		1
C849	ECUV1H682KBV	6800P		1
C850	PQCUV1H223KB	0.022		1
C851	ECUV1C104ZFV	0.1		1
C852	ECEA1CKS220	22	S	1
C853	ECEA0JU102	1000		1
C854	ECEA1CKS470	47	S	1
C855	ECUV1H223KBV	0.022	S	1
C856	PQCUV1H471JC	470P	S	1
C857	ECUV1H102KBV	1000P		1
C858	ECEA1AKS221	220	S	1
C859	PQCUV1E104MD	0.1	S	1
C860	PQCUV1E333MD	0.033	S	1
C861	PQCUV1H561JC	560P	S	1
C862	PQCUV1E104MD	0.1	S	1
C863	PQCUV1H821JC	820P	S	1

Ref. No.	Part No.	Value		Pcs/Set
C864	PQCUV1H122KB	1200P		1
C865	PQCUV1E333MD	0.033	S	1
C866	PQCUV1E104MD	0.1	S	1
C867	ECEA1AKS101	100		1
C868	PQCUV1E104MD	0.1	S	1
C869	PQCUV1E104MD	0.1	S	1
C870	PQCUV1E104MD	0.1	S	1
C871	PQCUV1E104MD	0.1	S	1
C872	PQCUV1E473MD	0.047	S	1
C875	PQCUV1E104MD	0.1	S	1
C879	PQCUV1E104MD	0.1	S	1
C881	ECUV1C104KBV	0.1		1
C890	ECUV1C104KBV	0.1		1

		OPERATIONAL P.C.BOARD PARTS		
PCB2	PQWP2CM422BH	P.C.BOARD ASS'Y (RTL)		1
		(DIODES)		
D513	1SS119	DIODE(SI)		1
D516	1SS119	DIODE(SI)		1
D517	1SS119	DIODE(SI)		1
D520	1SS119	DIODE(SI)		1
LED551	LNJ301MPUJA	LED		1
LED552	PQVDSLN210VC	LED		1
LED553	PQVDSLN210VC	LED		1
		(LCD)		
LCD501	PQADHLC7124	LCD		1
		(OTHER)		
CN502	PQJS30A19Z	CONNECTOR		1
E501	PQHR10552Z	LCD HOLDER		1

REPLACEMENT PARTS LIST

Portable Handset

Note:
1. RTL (Retention Time Limited)
   The marking (RTL) indicates that the Retention Time is limited for this item.
   After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. Important safety notice.
   Components identified by a ⚠ mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms (Ω) K=1000Ω, M=1000KΩ
   All capacitors are in MICRO FARADS (μF) P= μμF
   *Type &Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

| 10,16:1/8W | 14,25:1/4W | 12:1/2W | 1:1W | 2:2W | 3:3W |

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V	
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V	
2E:250V	2:200V	1V:35V	1C :16V	1J :63V	
2H:500V		0J:6.3V	1E,25:25V	2A :100V	

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		CABINET & ELECTRICAL PARTS	
100	PJHE5065Z	SCREW	2
101	PQAX3P16Z	SPEAKER	1
102	PQBX10288U	BUTTON, KEY	1
103	PQXA36ASVC	RECHAGEABLE BATTERY	1
104	PQHR10559Z	RF HOLDER	1
105	PQJT10137Z	BATTERY TERMINAL	3
106	PQKF10202W2	REAR CABINET	1
107	PQKK10081Z2	BATTERY COVER	1
108	PQKM10277V8	FRONT CABINET	1
109	PQSA10065Y	ANTENNA	1
110	PQSX10057Z	KEY BOARD SWITCH	1
111	PQHE10070Z	SPONGE	1
112	PQHG10479Z	SPACER	1
113	PQGT12896Z	NAME PLATE	1

Ref. No.	Part No.	Part Name & Description		Pcs/Set
		MAIN P.C.BOARD PARTS		
PCB100	PQWP1M526BXR	P.C.BOARD ASS'Y (RTL)		1
		(ICS)		
IC201	XN1116	TRANSISTOR(SI)		1
IC202	PQVI0008GE47	IC		1
IC203	PQVIS80730AL	IC		1
IC204	PQVIXCC3501P	IC		1
		(TRANSISTORS)		
Q1	PQVTDTC114EU	TRANSISTOR(SI)		1
Q2	PQVTDTC114EU	TRANSISTOR(SI)		1
Q201	2SD601A	TRANSISTOR(SI)		1
		(or 2SC2712GRTE85)		
Q202	2SD601A	TRANSISTOR(SI)		1
		(or 2SC2712GRTE85)		
Q203	2SB709A	TRANSISTOR(SI)		1
		(or 2SA1162GRTE85)		
Q204	PQVTD123T146	TRANSISTOR(SI)	S	1
Q205	PQVTD123T146	TRANSISTOR(SI)	S	1
Q206	PQVT143XK146	TRANSISTOR(SI)		1
		(DIODES)		
D201	MA110	DIODE(SI)		1
D202	MA110	DIODE(SI)		1
D203	MA728	DIODE(SI)		1
D204	PQVDS5688G	DIODE(SI)		1
D207	MA110	DIODE(SI)		1
D208	MA110	DIODE(SI)		1
LED201	LNJ301MPUJA	LED		1
LED202	LNJ301MPUJA	LED		1
LED203	LNJ301MPUJA	LED		1
LED204	LNJ301MPUJA	LED		1
LED205	LNJ301MPUJA	LED		1
LED206	LNJ301MPUJA	LED		1
LED207	PQVDSLN210VC	LED		1
LED208	PQVDSLN210VC	LED		1
		(COILS)		
L201	PQLQZMR68M	COIL	S	1
L202	PQLQZM100K	COIL		1
L203	PQLQZM220K	COIL		1
L204	PQLQZM1R0K	COIL		1
L205	ELJFAR68M	COIL		1
		(CONNECTORS)		
CN101	PQJP2D13Z	CONNECTOR		1
CN201	PQJS12A36Z	CONNECTOR		1
		(CRYSTALS)		
X201	PQVCJ3995N9Z	CRYSTAL OSCILLATOR		1
X202	PQVCL3276N9Z	CRYSTAL OSCILLATOR		1
		(OTHERS)		
E100	PQEFBDB111GP	BUZZER		1
E101	PQJM122Z	MICROPHONE		1
E102	PQMC10265Z	SHIELD COVER		1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		(RESISTORS)	
R22	PQ4R10XJ273	27K	1
R27	PQ4R10XJ183	18K	1
R28	PQ4R10XJ822	8.2K	1
R201	PQ4R10XJ104	100K	1
R202	PQ4R10XJ334	330K	1
R203	PQ4R10XJ334	330K	1
R204	PQ4R10XJ331	330	1
R205	PQ4R10XJ103	10K	1
R206	PQ4R10XJ472	4.7K	1
R208	PQ4R10XJ104	100K	1
R209	PQ4R10XJ331	330	1
R211	PQ4R10XJ472	4.7K	1
R212	PQ4R10XJ472	4.7K	1
R213	PQ4R10XJ473	47K	1
R215	PQ4R10XJ104	100K	1
R217	PQ4R10XJ333	33K	1
R219	PQ4R10XJ104	100K	1
R220	PQ4R10XJ473	47K	1
R221	PQ4R10XJ122	1.2K	1
R222	PQ4R10XJ222	2.2K	1
R223	PQ4R10XJ103	10K	1
R224	PQ4R10XJ332	3.3K	1
R225	PQ4R10XJ104	100K	1
R226	PQ4R10XJ104	100K	1
R228	PQ4R10XJ681	680	1
R229	PQ4R18XJ681	680	1
R230	PQ4R10XJ681	680	1
R231	PQ4R10XJ681	680	1
R232	PQ4R10XJ221	220	1
R234	PQ4R10XJ332	3.3K	1
R238	PQ4R10XJ103	10K	1
R240	PQ4R10XJ120	12	1
R241	PQ4R18XJ102	1K	1
R245	PQ4R10XJ331	330	1
R246	PQ4R10XJ331	330	1
R251	PQ4R10XJ270	27	1
R252	PQ4R10XJ153	15K	1
J207	PQ4R10XJ000	0	1
		(CAPACITORS)	
C203	ECEA0GKS221	220	1
C205	PQCUV1C105ZF	1	1
C208	PQCUV1H103ZF	0.01	1
C209	PQCUV1C105ZF	1	1
C210	PQCUV1C105ZF	1	1
C211	PQCUV1H103ZF	0.01	1
C212	PQCUV1H103ZF	0.01	1
C213	PQCUV1H103ZF	0.01	1
C214	PQCUV1H470JC	47P	1
C215	PQCUV1H470JC	47P	1
C216	PQCUV1H270JC	27P	1
C217	PQCUV1H270JC	27P	1
C218	PQCUV1H103ZF	0.01	1
C219	PQCUV1H103ZF	0.01	1

Ref. No.	Part No.	Value		Pcs/Set
C220	PQCUV1E104MD	0.1	S	1
C221	PQCUV1E104MD	0.1	S	1
C222	PQCUV1E104MD	0.1	S	1
C223	PQCUV1E104MD	0.1	S	1
C225	PQCUV1H182KB	1800P		1
		RF P.C.BOARD PARTS		
PCB200	PQWP2M526BXR	P.C.BOARD ASS'Y (RTL)		1
		(IC)		
IC1	PQVITB31224R	IC		1
		(TRANSISTORS)		
Q101	2SC2295	TRANSISTOR(SI)	S	1
		(or 2SC2413KPT146)		
Q102	2SC2295	TRANSISTOR(SI)		1
Q103	2SC3356R24	TRANSISTOR(SI)		1
		(DIODES)		
D101	MA840BTAKU	DIODE(SI)		1
D102	MA840ATAKU	DIODE(SI)		1
		(CERAMIC FILTERS)		
CF1	PQVFSFE107MJ	CERAMIC FILTER	S	1
CF2	PQVFCFH455F1	CERAMIC FILTER		1
		(COILS)		
L4	PQLI2B201	COIL		1
L5	PQL04A2	COIL		1
L103	PQLA7A7	COIL		1
L105	PQLA7A22	COIL		1
		(CONNECTOR)		
CN1	PQJP12B55Z	CONNECTOR		1
		(CRYSTAL)		
X1	PQVCK1024LC5	CRYSTAL OSCILLATOR		1
		(DUPLEXS)		
DUP1	PQVFR26RX	DUPLEX		1
DUP101	PQVFR26TX	DUPLEX		1
		(VARIABLE RESISTORS)		
VR1	EVNDXAA03B34	VARIABLE RESISTOR		1
VR101	EVNDXAA03B55	VARIABLE RESISTOR		1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Value		Pcs/Set
		(RESISTORS)		
R1	ERJ3GEYJ680	68		1
R2	ERJ3GEYJ331	330		1
R3	ERJ3GEYJ183	18K		1
R4	ERJ3GEYJ183	18K		1
R5	ERJ3GEYJ154	150K		1
R6	ERJ3GEYJ681	680		1
R7	ERJ3GEYJ154	150K		1
R8	ERJ3GEYJ562	5.6K		1
R9	ERJ3GEYJ153	15K		1
R10	ERJ3GEYJ561	560		1
R11	ERJ3GEYJ822	8.2K		1
R12	ERJ3GEYJ822	8.2K		1
R13	ERJ3GEY0R00	0		1
R14	ERJ3GEYJ333	33K		1
R15	ERJ3GEYJ272	2.7K		1
R16	ERJ3GEYJ473	47K		1
R18	ERJ3GEYJ223	22K		1
R19	ERJ3GEYJ124	120K		1
R20	ERJ3GEYJ104	100K		1
R23	ERJ3GEYJ153	15K		1
R24	ERJ3GEYJ223	22K		1
R33	ERJ3GEYJ332	3.3K		1
R34	ERJ3GEYJ154	150K		1
R35	ERJ3GEYJ103	10K		1
R36	ERJ3GEYJ104	100K		1
R37	ERJ3GEYJ562	5.6K		1
R38	ERJ3GEYJ182	1.8K		1
R39	ERJ3GEYJ222	2.2K		1
R101	ERJ3GEYJ561	560		1
R102	ERJ3GEYJ220	22		1
R103	ERJ3GEYJ223	22K		1
R104	ERJ3GEYJ273	27K		1
R105	ERJ3GEYJ561	560		1
R106	ERJ3GEYJ220	22		1
R108	ERJ3GEYJ472	4.7K		1
R109	ERJ3GEYJ822	8.2K		1
R110	ERJ3GEYJ393	39K		1
R112	ERJ3GEYJ100	10		1
R113	ERJ3GEYJ823	82K		1
R115	ECUV1H103KBV	0.01	S	1
R116	ERJ3GEYJ683	68K		1
R117	ERJ3GEYJ564	560K		1
R500	ERJ3GEYJ2R2	2.2		1
R501	ERJ3GEYJ153	15K		1
R502	ERJ3GEYJ393	39K		1
		(CAPACITORS)		
C1	ERJ3GEY0R00	0		1
C3	ECST1EY474	0.47		1
C4	ECUV1H102KBV	1000P		1
C5	PQCUV1E104MD	0.1	S	1
C6	ECEA0JKS470	47		1
C7	ECUV1C104ZFV	0.1		1
C8	ECUV1H270JCV	27P	S	1
C9	ECUV1H221JCV	220P		

Ref. No.	Part No.	Value		Pcs/Set
C10	ECUV1H472KBV	4700P		1
C11	ECUV1H221JCV	220P		1
C12	PQCUV1C683KB	0.068		1
C13	PQCUV1C105ZF	1		1
C14	ECEA1CKS100	10		1
C15	PQCUV1C224KB	0.22		1
C16	ECUV1H103KBV	0.01		1
C17	PQCUV1C224KB	0.22		1
C18	ECUV1H153KBV	0.015		1
C20	ECUV1H223KBV	0.022	S	1
C21	ECUV1H220JCV	22P		1
C22	ECUV1C104ZFV	0.1		1
C23	ECUV1H471JCV	470P		1
C24	ECEA1CKS220	22		1
C25	ECSTAJ1CA225	2.2	S	1
C26	PQCUV1C224KB	0.22		1
C27	ECUV1H102KBV	1000P		1
C28	ECUV1H122KBV	1200P		1
C29	ECUV1C473KBV	0.047		1
C30	ECUV1H103KBV	0.01		1
C32	ECUV1C104ZFV	0.1		1
C34	ECUV1H560GCV	56P		1
C35	ECUV1H560GCV	56P		1
C36	ECUV1H560GCV	56P		1
C37	ERJ3GEY0R00	0		1
C39	ECUV1H103KBV	0.01		1
C40	ECUV1H222KBV	2200P		1
C41	ECEA1HKS010	1		1
C42	ECUV1H221JCV	220P		1
C43	ECUV1H103KBV	0.01		1
C45	ECUV1H102KBV	1000P		1
C46	ECUV1H102KBV	1000P		1
C47	ECUV1H102KBV	1000P		1
C48	ECUV1C104ZFV	0.1		1
C49	ECUV1H103KBV	0.01	S	1
C50	ECUV1C104KBV	0.1		1
C52	ECUV1C104KBV	0.1		1
C53	ECUV1H820JCV	82P		1
C102	ERJ3GEY0R00	0		1
C104	ECUV1H220JCV	22P		1
C105	ECUV1H103KBV	0.01	S	1
C106	ECUV1H680JCV	68P		1
C107	ECUV1H470JCV	47P		1
C108	ECUV1H050CCV	5P		1
C109	ERJ3GEYJ223	22K		1
C110	ECUV1H103KBV	0.01		1
C111	ECUV1H220JCV	22P		1
C112	ECUV1H100DCV	10P		1
C113	ECUV1H150JCV	15P		1
C114	ECUV1H102KBV	1000P		1
C115	ECUV1H103KBV	0.01	S	1
C116	ECUV1C104ZFV	0.1		1
C117	ECUV1H151JCV	150P		1
C118	ECUV1H3R0BCV	3		1
C119	ECUV1C104ZFV	0.1		1
C120	ECUV1C104ZFV	0.1		1
C500	ECUV1H103KBV	0.01		1
C501	ECUV1H103KBV	0.01	S	1
C502	ECUV1H220JCV	22P	S	1
C505	ECUV1H030CCV	3P	S	1

This replacement parts list is only for the model : KX-TCM526BX-B.

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		KX-TCM526BX-B	
		ACCESSORIES	
A1	KX-A11BMX	AC ADAPTOR ⚠	1
A2	PQJA10075Z	TEL CORD	1
A3	PQKL10028Z2	WALL MOUNT BRACKET	1
A4	PQQT11156Y	TEL CARD LABEL	1
A5	PQQW11825Z	QUICK REFERENCE GUIDE (English)	1
A6	PQQW11826Z	QUICK REFERENCE GUIDE (Spanish)	1
A7	PQQX11791Z	INSTRUCTION BOOK	1
A8	KX-J05X	PLUG ADAPTOR	1
		PACKING MATERIALS	
P1	XZB10X35A02	PROTECTION COVER (for Portable Handset)	1
P2	XZB23X35A02	PROTECTION COVER (for Base Unit)	1
P3	PQPN10618Z	INNER BOX	1
P4	PQPK12373Z	GIFT BOX (BLACK)	1
		TOOL	
ZZ1	PQZZ12K11Z	EXTENSION CORD, 12P	1

Note:
PQZZ12K11Z is useful for servicing (It make servicing easy).